A Captive Feasibility Analysis prepared by

SIGMA Actuarial Consulting Group, Inc.

SIGMA ACTUARIAL CONSULTING GROUP, INC.

January 21, 2021

Samuel Jackson
Director of Risk Management
XYZ, Inc.
123 Lafayette Avenue, Suite 456
Atlanta, GA 30303

Re: Captive Feasibility Pro-forma Analysis

Mr. Jackson:

Enclosed are the results of a captive feasibility pro-forma analysis prepared by SIGMA Actuarial Consulting Group, Inc. Your comments and questions are welcome.

It has been a pleasure working on this assignment, and we look forward to future opportunities to work together.

Regards,

AL J. Rhodes, ACAS, MAAA
President & Senior Actuary
SIGMA Actuarial Consulting Group, Inc.

Qualification Statement: I, Al J. Rhodes, am associated with the firm of SIGMA Actuarial Consulting Group, Inc. I am a member of the American Academy of Actuaries and meet its qualification standards, and I am an Associate of the Casualty Actuarial Society.

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Executive Summary

Introduction

This captive feasibility pro-forma analysis is prepared by SIGMA Actuarial Consulting Group, Inc. (SIGMA) for XYZ, Inc. (XYZ). The conclusions represent a professional analysis and opinion of XYZ's potential 5-year pro-formas with a single initial coverage of workers compensation being considered in captive formation. The scope of this analysis is:

1. *Project 1/1/2021-2022 losses at an expected level and various confidence levels.*
2. *Prepare 5-year pro-forma financial statements based on expected losses.*
3. *Prepare 5-year pro-forma financial statements based on potential adverse conditions.*

Immediately following this introduction is an explanation of the underlying assumptions used in the development of the **5-year pro-forma financial statements**. The **outline of basic methodology** section summarizes the actuarial techniques utilized. The **data reliance and review** section discusses the sources of all data utilized for this analysis. The **qualifying statements** add important comments concerning the data and assumptions used to complete the analysis. The **analysis and methodology** section presents the step-by-step approach used to analyze XYZ's loss experience. Additional sections provide supporting detail.

This report is intended for the use of XYZ and their captive manager. XYZ's captive manager facilitates the flow of information between SIGMA and XYZ. If released to any other party, it should be released only in its entirety. Please advise the authors at SIGMA of the release of this report to any other parties. SIGMA reserves the right to supplement this report with additional explanations and qualifications as it deems appropriate for the particular user.

Executive Summary

5-Year Pro-forma Financial Statements

Pro-forma financial statements are completed for the upcoming 5-year period. Estimated loss reserves used in the pro-formas are shown at both an expected and adverse level. Estimated loss reserves are defined as the amount that will be required for future payments on (1) claims that have been reported and (2) claims that have occurred but have not been reported as of the evaluation date. The projected losses along with payout assumptions are used to determine the estimated reserves at various points in time. All other items and assumptions regarding growth, expenses, and investment return rates are provided by XYZ, their captive manager, or gathered from official regulatory sources.

The following assumptions have been made regarding the pro-forma financial statements:

- Loss and premium growth rate of 10%
- An initial capital investment of $1,500,000 is made to form the captive
- Estimated annual operating expenses of $150,000 with an annual growth of 10%
- Estimated startup expenses of $50,000
- Premium tax rate of 0.35% with a maximum of $250,000
- Federal tax rate of 21%
- Investment yield of 2%
- No letter of credit requirement
- No excess reinsurance policies are in effect over the 5-year period
- All relevant policies have a 12-month term effective 1/1 of each year
- For the adverse scenario, losses in the ***second and fourth years will be at the 90th percentile*** from the confidence level analysis

Executive Summary

Outline of Basic Methodology

- Workers compensation losses are shown at various confidence levels. The underlying loss projections and parameters for this risk were estimated in a separate actuarial report.

- Annual net written premiums are estimated based on the projected expected losses, estimated operating expenses, and a risk margin with profit load. The risk margin considers the overall confidence levels for the risk. These are earned over the 5 years of the pro-forma financial statements.

- The workers compensation loss reserves are calculated from the loss and loss expenses (projected losses) based on an assumed loss payout pattern over the 5 years of the pro-forma financial statements. These loss reserves are used as input in the balance sheet to determine total liabilities.

- Cash flows based on 5-year loss projections and payouts are used to calculate the line items in the income statement, balance sheet, and cash flow statement for each year of the 5-year pro-forma financial statement.

Executive Summary

Data Reliance and Review

The company-specific loss, exposure, and financial data used in both this report and the supporting actuarial report is supplied by XYZ or their captive manager. It is our understanding we have been provided with all information which would materially affect this analysis. The historical data is assumed to be accurate and complete and should be reconciled with internal records. We have used XYZ's own loss and exposure data to the extent this data is credible and available. All supplementary industry data reflects the characteristics of XYZ's type of business, to the extent possible.

Our consulting engagement does not include an audit of the loss data, financial records, or accounting records provided to us. An audit of the data is defined in an actuarial standard of practice as "a formal and systematic examination of data for the purpose of testing its accuracy and completeness." SIGMA does not provide accounting or auditing services, and these services are normally completed by independent accounting firms.

The workers compensation loss projections in this analysis were determined in a separate actuarial report completed by SIGMA. In that report, we reviewed the data for overall reasonableness. We also reviewed the data for consistency. This review involved the comparison of incurred losses, paid losses, and claim counts, as well as other tests we considered necessary. As part of this review, we did not find any material issues in the data. However, such issues could be revealed by an audit.

Additional sources of industry data include official regulatory sources and insurance company information.

Executive Summary

Qualifying Statements

1. We have relied without audit or verification on historical data and qualitative information supplied by XYZ. It is our understanding we have been provided with all information which would materially affect the loss estimates and that all information furnished to us has been accurate and complete.

2. We have assumed that historical operations (distribution of exposures by geographic area and nature of operations) are representative of current and future operations.

3. We have assumed there are no factors which would cause patterns in the underlying data to be unrepresentative of the current or future situation. We have assumed that the loss projections in the actuarial report completed for workers compensation are still reasonable. That report was completed prior to this analysis, and we have assumed there have been no significant changes in the underlying data since that report was completed.

4. Specifically, the aggregate loss probability distribution used in this report is based on the 12/31/20 actuarial analysis completed by SIGMA. Please refer to the 12/31/20 actuarial report for a full description of methodology and qualifying statements related to the workers compensation loss projection.

5. The final program structure when forming a captive may change from the original proposal or strategy. These pro-formas should be modified to reflect any changes in program structure subsequent to the completion of this report.

6. SIGMA is a property casualty actuarial consulting firm. There are many components related to the formation of a captive. Some of the components require detailed expertise related to insurance brokerage, captive management, program structure, accounting concerns, and tax issues. We are not issuing an opinion or advice on risk transfer, tax issues, optimal reinsurance structure, or contract wording. XYZ should seek appropriate expertise related to detailed questions or concerns that are beyond the scope of actuarial expertise and considerations.

7. Changes in any of the information or assumptions upon which SIGMA's estimates of ultimate losses are based will require a reevaluation of the results of this report and possibly a revision of these projections.

8. The adverse level shown in this analysis is intended to present one among many potential adverse scenarios and is not intended to represent an absolute maximum worst case scenario. XYZ should discuss potential adverse scenarios internally and with their captive

manager.

This report should be released only in its entirety. SIGMA actuaries will be available for consultation should any individual reviewing this report have questions or require further analysis.

Analysis and Methodology

Captive Feasibility Pro-forma Analysis

This section presents the detailed methodology used in developing the three key financial statements in the 5-year pro-forma evaluating the feasibility of the potential XYZ captive.

Section 3, Table 1 – 2021 Aggregate Loss Probability Distribution

This table provides a summary of the aggregate loss probability distribution for the projected period. XYZ currently retains the first $500,000 per occurrence of any workers compensation claim. The proposed initial purpose of the captive is to provide deductible coverage for XYZ's retained layer. Therefore, this table is shown at a $500,000 per occurrence limit. Losses are shown at a $750,000 per occurrence limit for information purposes only at the request of XYZ. Only losses at the $500,000 per occurrence limit are used for the pro-formas.

Section 3, Table 2 – Pricing Summary

In order to develop the 5-year pro-forma financial statements, it is necessary to estimate the expected annual premium for XYZ. To develop a reasonable assumption for this value, the analysis shown in the pricing summary is completed. The premium is comprised of three elements in this exhibit: 1) the expected losses, 2) the estimated operating expenses, and 3) the estimated profit and contingency margin.

Multiple methods may be used to determine a reasonable premium amount, including the method shown in this table. The premium pricing used in this report correlates to the $500,000 retention. Again, the premium estimate at $750,000 is shown for illustrative purposes only.

Section 3, Table 3 – Income Statement – Expected Scenario

This table provides the XYZ expected income statement for each of the 5 years based on the premiums written, losses, and additional expenses. The net underwriting income is determined for each year of the pro-forma by beginning with the gross underwriting income and deducting the losses, operating expenses, and premium taxes. Net income is then determined by adding the expected investment income to the net underwriting income and deducting federal income taxes. The net income is the net earnings retained each year by the captive. Key ratios are shown for each year.

Section 3, Table 4 – Balance Sheet – Expected Scenario

This table displays the balance sheet at the end of each year of the pro-forma. Assets reflect cumulative cash & equivalents, invested assets, and other assets. No deferred tax credits or letters of credit have been assumed. The cash & equivalents reflect the initial capital investment made to form the captive. Invested assets are made up of the total liabilities and equity less cash & equivalents. Total liabilities consist of loss reserves and other liabilities.

Section 3, Table 5 – Cash Flow Statement – Expected Scenario

In this table, cash flows are shown for each year of the pro-forma. Cash flowing into the captive is generated by two sources: net premiums collected and investment income. Deductions from cash reflect losses and income taxes paid, as well as other items. Other items are made up of total operating expenses and premium taxes. The outcome of the cash flow statement reflects the amount of cash (credited)/debited to invested assets.

Section 4, Table 1 – Income Statement – Adverse Scenario
Section 4, Table 2 – Balance Sheet – Adverse Scenario
Section 4, Table 3 – Cash Flow Statement – Adverse Scenario

This section follows the same methodology as the income statement, balance sheet, and cash flow statement exhibits from Section 3. For the adverse scenario, losses in the second and fourth years are assumed to be at the 90th percentile on a confidence interval. Adverse scenarios help demonstrate the effect on key ratios when losses are significantly above expected and provide a reasonable stress test for XYZ. The adverse level shown in this analysis is intended to present one among many potential adverse scenarios and is not intended to represent an absolute maximum worst case scenario. XYZ should discuss potential adverse scenarios internally and with their captive manager.

Appendix, Table 1 – Supplementary Pricing Methods

The appendix contains supplementary methods of estimating an expected annual premium amount that could be charged by XYZ's captive. These methods are presented for illustrative purposes only and are used to review the reasonableness of the annual premium estimate used within the 5-year pro-forma financial statements.

Analysis and Methodology

Preface to Additional Sections

Sections 3 and 4 contain the captive feasibility study exhibits for the 5-year pro-formas at an expected level and the 5-year pro-formas based on potential adverse conditions.

The appendix contains supplementary pricing methods shown for illustrative purposes.

Section 3, Table 1

XYZ, Inc.

Workers Compensation

2021 Aggregate Loss Probability Distribution

(Losses are Limited to $500,000 per Occurrence)

Aggregate Loss Probability	Aggregate Loss Distribution	Risk Margin
Expected	$1,870,000	100%
40%	$1,770,000	95%
45%	1,810,000	97%
50%	1,850,000	99%
55%	1,880,000	101%
60%	1,920,000	103%
65%	1,960,000	105%
70%	2,010,000	107%
75%	2,060,000	110%
80%	2,120,000	113%
85%	2,180,000	117%
90%	2,270,000	121%
95%	2,410,000	129%
99%	2,700,000	144%

Notes:

For detail on the full actuarial methodology used to calculate the loss distribution shown above, please refer to SIGMA's 2021 Sample Study.

Section 3, Table 2

XYZ, Inc.

Pricing Summary

	$500,000 Retention	$750,000 Retention
Projected Losses	$1,870,000	$2,010,000
Operating Expenses	150,000	150,000
Profit and Contingency Margin	190,000	200,000
Premiums	$2,210,000	$2,360,000
Loss Ratio	85%	85%
Confidence Level to Estimate Profit and Contingency Margin	75%	75%

Notes:

1. Operating Expenses and Profit and Contingency Margins are estimates based on standard industry experience. Actual amounts may differ from the estimates shown after specific terms are settled.

2. Multiple methods may be used to determine a reasonable premium amount, including the method shown above. Additional methods are shown in the Appendix and may be used to review the reasonableness of the premium level used in this report.

3. The premium pricing used in this report correlates to the $500,000 retention shown above. The premium estimate at a $750,000 retention is shown for illustrative purposes only.

Section 3, Table 3

XYZ, Inc.

Income Statement - Expected Scenario

Year Beginning 1/1	*2021*	*2022*	*2023*	*2024*	*2025*
Written Premium	$ 2,210,000	$ 2,430,000	$ 2,670,000	$ 2,940,000	$ 3,230,000
Net Earned Premium	2,210,000	2,430,000	2,670,000	2,940,000	3,230,000
Gross Underwriting Income	2,210,000	2,430,000	2,670,000	2,940,000	3,230,000
Loss and Loss Expenses	1,870,000	2,060,000	2,270,000	2,500,000	2,750,000
Total Operating Expenses	200,000	165,000	182,000	200,000	220,000
Premium Taxes	8,000	9,000	9,000	10,000	11,000
Total Underwriting Expenses	2,078,000	2,234,000	2,461,000	2,710,000	2,981,000
Net Underwriting Income	132,000	196,000	209,000	230,000	249,000
Investment Income	10,000	40,000	60,000	70,000	90,000
Net Pre-Tax Income	142,000	236,000	269,000	300,000	339,000
Federal Income Tax	30,000	50,000	60,000	60,000	70,000
Net Income	$ 112,000	$ 186,000	$ 209,000	$ 240,000	$ 269,000
Net Earned Premiums to Equity	137%	135%	133%	131%	128%
Per Occurrence Retention to Equity	31%	28%	25%	22%	20%
Loss and Loss Expenses to Net Premiums	85%	85%	85%	85%	85%
Total Operating Expenses to Net Premiums	9%	7%	7%	7%	7%
Combined Ratio	94%	92%	92%	92%	92%
Overall Liquidity	239%	189%	174%	168%	165%

Notes:
1. The 2021 Total Operating Expenses include an estimate of expenses associated with captive formation.

Section 3, Table 4

XYZ, Inc.

Balance Sheet - Expected Scenario

As Of Year End (12/31)	*2021*	*2022*	*2023*	*2024*	*2025*
Assets:					
Cash & Equivalents	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000
Invested Assets	1,272,000	2,318,000	3,227,000	4,067,000	4,896,000
Other Assets	0	0	0	0	0
Total Assets	$ 2,772,000	$ 3,818,000	$ 4,727,000	$ 5,567,000	$ 6,396,000
Liabilities:					
Loss Reserves	1,160,000	2,020,000	2,720,000	3,320,000	3,880,000
Other Liabilities	0	0	0	0	0
Total Liabilities	$ 1,160,000	$ 2,020,000	$ 2,720,000	$ 3,320,000	$ 3,880,000
Shareholders' Equity:					
Paid in Capital	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
Retained Earnings	112,000	298,000	507,000	747,000	1,016,000
Total Equity	$ 1,612,000	$ 1,798,000	$ 2,007,000	$ 2,247,000	$ 2,516,000
Total Liabilities & Equity	$ 2,772,000	$ 3,818,000	$ 4,727,000	$ 5,567,000	$ 6,396,000

Section 3, Table 5

XYZ, Inc.

Cash Flow Statement - Expected Scenario

Year Beginning 1/1	*2021*	*2022*	*2023*	*2024*	*2025*
Cash from Operations					
Premiums, net of Taxes & Reins.	$ 2,210,000	$ 2,430,000	$ 2,670,000	$ 2,940,000	$ 3,230,000
Reinsurance Paid	0	0	0	0	0
Net Premiums Collected	2,210,000	2,430,000	2,670,000	2,940,000	3,230,000
Investment Income	10,000	40,000	60,000	70,000	90,000
Other Income	0	0	0	0	0
Total Income	$ 2,220,000	$ 2,470,000	$ 2,730,000	$ 3,010,000	$ 3,320,000
Deductions					
Loss and LAE Paid	710,000	1,200,000	1,570,000	1,900,000	2,190,000
Income Taxes Paid	30,000	50,000	60,000	60,000	70,000
Other Items	208,000	174,000	191,000	210,000	231,000
Total Deductions	948,000	1,424,000	1,821,000	2,170,000	2,491,000
Cash From Operations	$ 1,272,000	$ 1,046,000	$ 909,000	$ 840,000	$ 829,000
Investment and Financing					
Net Cash from/to Investments	(1,272,000)	(1,046,000)	(909,000)	(840,000)	(829,000)
Change in Note to Parent	0	0	0	0	0
Stock and Paid in Capital	0	0	0	0	0
Shareholder Dividends	0	0	0	0	0
Other Items	0	0	0	0	0
Total Investment and Financing	(1,272,000)	(1,046,000)	(909,000)	(840,000)	(829,000)
Total Change from Period	$ 0	$ 0	$ 0	$ 0	$ 0

Section 4, Table 1

XYZ, Inc.

Income Statement - Adverse Scenario

Year Beginning 1/1	*2021*	*2022*	*2023*	*2024*	*2025*
Written Premium	$ 2,210,000	$ 2,430,000	$ 2,670,000	$ 2,940,000	$ 3,230,000
Net Earned Premium	2,210,000	2,430,000	2,670,000	2,940,000	3,230,000
Gross Underwriting Income	2,210,000	2,430,000	2,670,000	2,940,000	3,230,000
Loss and Loss Expenses	1,870,000	2,500,000	2,270,000	3,020,000	2,750,000
Total Operating Expenses	200,000	165,000	182,000	200,000	220,000
Premium Taxes	8,000	9,000	9,000	10,000	11,000
Total Underwriting Expenses	2,078,000	2,674,000	2,461,000	3,230,000	2,981,000
Net Underwriting Income	132,000	(244,000)	209,000	(290,000)	249,000
Investment Income	10,000	30,000	50,000	70,000	80,000
Net Pre-Tax Income	142,000	(214,000)	259,000	(220,000)	329,000
Federal Income Tax	30,000	(40,000)	50,000	(50,000)	70,000
Net Income	$ 112,000	$ (174,000)	$ 209,000	$ (170,000)	$ 259,000
Net Earned Premiums to Equity	137%	169%	162%	199%	186%
Per Occurrence Retention to Equity	31%	35%	30%	34%	29%
Loss and Loss Expenses to Net Premiums	85%	103%	85%	103%	85%
Total Operating Expenses to Net Premiums	9%	7%	7%	7%	7%
Combined Ratio	94%	110%	92%	110%	92%
Overall Liquidity	239%	163%	157%	139%	142%

Notes:
1. The 2021 Total Operating Expenses include an estimate of expenses associated with captive formation.

Section 4, Table 2

XYZ, Inc.

Balance Sheet - Adverse Scenario

As Of Year End (12/31)	*2021*	*2022*	*2023*	*2024*	*2025*
Assets:					
Cash & Equivalents	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000
Invested Assets	1,272,000	2,228,000	3,037,000	3,737,000	4,396,000
Other Assets	0	0	0	0	0
Total Assets	$ 2,772,000	$ 3,728,000	$ 4,537,000	$ 5,237,000	$ 5,896,000
Liabilities:					
Loss Reserves	1,160,000	2,290,000	2,890,000	3,760,000	4,160,000
Other Liabilities	0	0	0	0	0
Total Liabilities	$ 1,160,000	$ 2,290,000	$ 2,890,000	$ 3,760,000	$ 4,160,000
Shareholders' Equity:					
Paid in Capital	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
Retained Earnings	112,000	(62,000)	147,000	(23,000)	236,000
Total Equity	$ 1,612,000	$ 1,438,000	$ 1,647,000	$ 1,477,000	$ 1,736,000
Total Liabilities & Equity	$ 2,772,000	$ 3,728,000	$ 4,537,000	$ 5,237,000	$ 5,896,000

Section 4, Table 3

XYZ, Inc.

Cash Flow Statement - Adverse Scenario

Year Beginning 1/1	*2021*	*2022*	*2023*	*2024*	*2025*
Cash from Operations					
Premiums, net of Taxes & Reins.	$ 2,210,000	$ 2,430,000	$ 2,670,000	$ 2,940,000	$ 3,230,000
Reinsurance Paid	0	0	0	0	0
Net Premiums Collected	2,210,000	2,430,000	2,670,000	2,940,000	3,230,000
Investment Income	10,000	30,000	50,000	70,000	80,000
Other Income	0	0	0	0	0
Total Income	$ 2,220,000	$ 2,460,000	$ 2,720,000	$ 3,010,000	$ 3,310,000
Deductions					
Loss and LAE Paid	710,000	1,370,000	1,670,000	2,150,000	2,350,000
Income Taxes Paid	30,000	(40,000)	50,000	(50,000)	70,000
Other Items	208,000	174,000	191,000	210,000	231,000
Total Deductions	948,000	1,504,000	1,911,000	2,310,000	2,651,000
Cash From Operations	$ 1,272,000	$ 956,000	$ 809,000	$ 700,000	$ 659,000
Investment and Financing					
Net Cash from/to Investments	(1,272,000)	(956,000)	(809,000)	(700,000)	(659,000)
Change in Note to Parent	0	0	0	0	0
Stock and Paid in Capital	0	0	0	0	0
Shareholder Dividends	0	0	0	0	0
Other Items	0	0	0	0	0
Total Investment and Financing	(1,272,000)	(956,000)	(809,000)	(700,000)	(659,000)
Total Change from Period	$ 0	$ 0	$ 0	$ 0	$ 0

Appendix, Table 1

XYZ, Inc.

Supplementary Pricing Methods

Method 1: 15% Capital Charge at 95th Percentile

Expected Losses	$	1,870,000
95th Percentile		2,410,000
Difference		540,000
Capital Charge		81,000
Premium	$	1,951,000

Method 2: 125% Margin Method

Expected Losses	$	1,870,000
Margin Ratio		125%
Premium	$	2,337,500

Method 3: 80th Percentile Method

Premium - 80th Percentile	$	2,120,000

Pricing Summary

Expected Losses	$	1,870,000
Method 1		1,951,000
Method 2		2,337,500
Method 3		2,120,000
Average Premium		2,140,000
2% Expense/Admin		42,800
Calculated Premium (Rounded)	$	2,180,000
Indicated Premium From Section 3, Table 1	$	2,210,000

Notes:

1. The pricing methods shown above are for illustrative purposes only and are used to review the reasonableness of the premium used in this report.

About SIGMA

Founded in 1995, SIGMA Actuarial Consulting Group, Inc. is an independent property and casualty actuarial firm located in Brentwood Tennessee. SIGMA provides casualty actuarial consulting services to captive managers, risk managers, brokers, risk management consultants, TPAs, and CPAs. Our credentials cover a broad spectrum from actuarial credentials and advanced academic degrees to risk management and captive insurance specialty credentials. SIGMA is dedicated to offering professional services to its clients and prides itself in the method used to communicate the results of the analysis. We are known for providing an easy to read and understandable analysis free of actuarial jargon. The findings are presented in such a way that individuals not necessarily familiar with actuarial principles and procedures can follow and reasonably understand how the calculations are made and the implications of the results. The analyses of loss data are objective and reference the most recently available insurance industry statistics when necessary and appropriate. SIGMA has won numerous industry awards that highlight our commitment to excellence and education.

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