NOTES FROM KING STREET

Quarterly Newsletter from Energy Insurance Services, Inc., Volume 1, Issue 5

Welcome to EIS's newly formatted quarterly newsletter. We have expanded our audience to include EIM Risk Managers and Member Representatives as well as all EIS Program Advisory Committee Members. If you have any questions, or suggestions for future topics, please contact Randy Martin at rmartin@eimtld.com.

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PAC Conference Recap

Your Charleston captive team was delighted with the great turnout at this year's conference. EIM/EIS/ECM thank you for your business and trust to provide alternative risk and benefit financing solutions for your organizations. With 96 attendees we conducted 13 separate Program Advisory Committee meetings, listened to subject matter experts discuss a variety of risk, benefit and captive insurance topics, and celebrated your captive's 25th anniversary. The slide decks for all presentations are posted to our website. We are in the process of setting dates and evaluating venues for next year.

Captive Optima

Last quarter we explored conducting an asset-liability study to help match assets with liabilities. These studies assist in optimizing the amount and mix of assets to be ready to support liability reserves and pay claims.

This quarter we are examining how diverse risks or insurance coverage will help to optimize the overall cost of financing risk. Diversity means insured risk that is moderately to significantly uncorrelated. Correlation means how likely one event will give rise to multiple claims against different retained risk or insurance policies written in your captive or captive cell. First, one needs to determine the level of correlation that exists between different risks, such as workers compensation, general liability, auto liability, or property, etc.

Statistically speaking: Statisticians use the correlation coefficient to measure the strength and direction of the linear relationship between two numerical variables X and Y. The correlation coefficient for a sample of data is denoted by r. The formula for the correlation (*r*) is

$$r = \frac{1}{n-1}\left(\frac{\sum_x \sum_y (x-\bar{x})(y-\bar{y})}{s_x s_y} \right)$$

where *n* is the number of pairs of data.

This is a rather simple task that can be achieved using function formulas that exist in most spreadsheet applications. MS Excel's function CORREL enables a quick means to determine a correlation between two arrays of data or, for example, a general liability claim run and a workers compensation claim run.

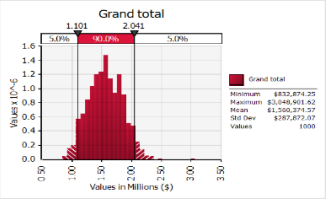
The more an insured risk is uncorrelated with other insured risk, the greater the diversification and opportunity to realize cost efficiency. This is realized by taking advantage of a portfolio effect created by insuring two or more types of insurance coverage. The level of correlation can take into account the historic annual frequency and severity of claims by line of cover. More loss data provided by a portfolio of covers will statistically enhance the confidence of loss probabilities. The variability of total premium dollars needed in a captive to insure several lines will be narrowed, giving a greater confidence that overall premium adequacy is being achieved across the portfolio. Additionally, the level of surplus required to support multiple lines of cover will be something less than a single cover. In other words, 2 + 2 equals something less than 4.

The table below represents the correlation of frequency of occurrences from three lines of coverage. The sample data used suggests there is not a high correlation amongst these lines. Suggesting that, based on this sample

portfolio, risk diversity is highly likely. The three shaded cells use the MS Excel formula of f_x = CORREL (Array1:Array2) to calculate the correlations.

Correlations among numbers of claims			
	AL	GL	WC
AL	1		
GL	0.356	1	
WC	0.237	0.413	1

Studying your risk correlation can be enhanced if you have a simulation modeling tool to run a significant number of random iterations. This will help you set your loss potential estimates at a confidence level that matches your company's risk tolerance. Then premiums and policyholder surplus may be targeted to an optimal level for your company's risk appetite. EIS has invested in a package of modeling tools to help us and our participants look at the efficiency of individual Mutual Business Programs or cells within EIS.

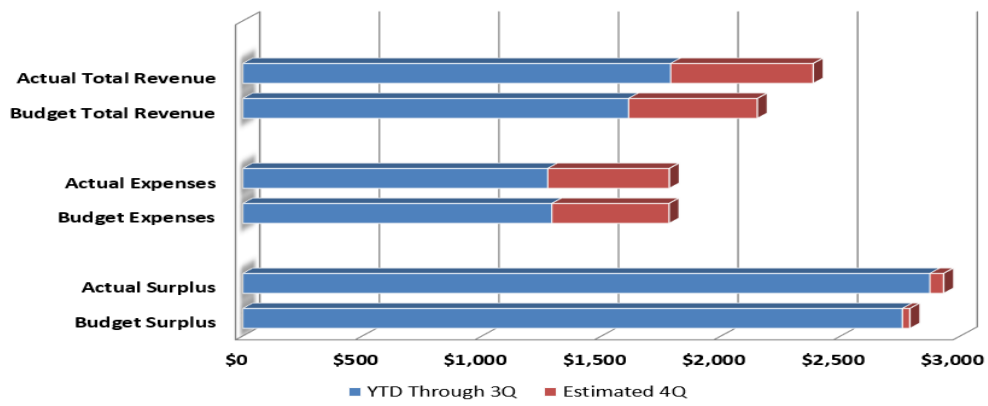


EIS Financials & Operations

The financial performance of the EIS general account is very healthy and continues to gain strength. EIS focuses on two primary key indicators: operating ratio and surplus growth. Our plan calls for an 85% operating ratio and an annual 8% surplus growth in the general account. We are expecting to be well ahead of plan in surplus growth after this first year of our three year strategic cycle (2017-2019). This is being driven by the operating efficiency of our in-house captive management team, Energy Captive Management LLC. The benefit of this efficiency will help enable EIS and ECM to add services to our participants, as needed.

FINANCIAL PERFORMANCE OF GENERAL ACCOUNT
THIRD QUARTER 2017 & YEAR-END FORECAST
(in $1000's)

	Actual	Status - Budget	YE-Forecast	Status - Forecast
Revenue	$ 1,789K	Ahead of Target	$ 2,385K	Ahead of Target
Expense	$ 1,275K	Ahead of Target	$ 1,783K	On Target
Surplus	$ 2,873K	Ahead of Target	$ 2,930K	Ahead of Target



Helpful Links:

General Captive Information	South Carolina Captive Information

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