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# A Loss Projection Report

for

## EXAMPLE CLIENT STUDY

Prepared by

**Gregory Stone | CIC, MLIS, CRIS, ERIS, AFIS  
Busby-Stone Risk Management**

*"Dont avoid risk ... manage it"*

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**Loss Forecaster Loss Projection**

**Prepared on 11/1/2017 at 12:51 PM by Gregory Stone | CIC, MLIS, CRIS, ERIS, AFIS,  
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**Company Name:** EXAMPLE CLIENT STUDY

**Industry:** Construction

**Line of Coverage:** Workers Compensation

**Method:** Both

**Type of Analysis:** Loss Projection

**Exposure:** Payroll

**Number of Policy Periods:** 5

**Projected Inception Date:** 1/1/2017

**Projected Expiration Date:** 12/31/2017

**Loss Limit:** \$250,000

**National averages used for workers compensation factors**

Example Client Study has engaged Busby-Stone Risk Management to analyze their current collateral towers and determine whether or not the insurer has properly projected losses to determine the requested increases in the collateral program.



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## Loss Data Input

## EXAMPLE CLIENT STUDY

Period Inception	Period Expiration	Evaluation Date	Incurred Losses	Reported Paid Losses	Payroll
1/1/2013	12/31/2013	11/1/2017	\$550,000	\$375,000	\$75,000,000
1/1/2014	12/31/2014	11/1/2017	\$850,000	\$450,000	\$78,000,000
1/1/2015	12/31/2015	11/1/2017	\$325,000	\$325,000	\$65,000,000
1/1/2016	12/31/2016	11/1/2017	\$675,000	\$550,000	\$71,000,000
1/1/2017	12/31/2017	11/1/2017	\$1,200,000	\$864,000	\$69,500,000



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## Excess of Limit Data Input

## EXAMPLE CLIENT STUDY

Period Inception	Period Expiration	Loss Limit		Total Incurred/ Reported Paid Losses	Losses in Excess of Limit	Total Excess Incurred/Paid Losses	Total Limited Incurred/Paid Losses
1/1/2013	12/31/2013	\$250,000	<i>Incurred</i>	\$550,000		\$0	\$550,000
			<i>Paid</i>	\$375,000		\$0	\$375,000
1/1/2014	12/31/2014	\$250,000	<i>Incurred</i>	\$850,000		\$0	\$850,000
			<i>Paid</i>	\$450,000		\$0	\$450,000
1/1/2015	12/31/2015	\$250,000	<i>Incurred</i>	\$325,000		\$0	\$325,000
			<i>Paid</i>	\$325,000		\$0	\$325,000
1/1/2016	12/31/2016	\$250,000	<i>Incurred</i>	\$675,000		\$0	\$675,000
			<i>Paid</i>	\$550,000		\$0	\$550,000
1/1/2017	12/31/2017	\$250,000	<i>Incurred</i>	\$1,200,000		\$0	\$1,200,000
			<i>Paid</i>	\$864,000		\$0	\$864,000



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## Loss Development Factors

## EXAMPLE CLIENT STUDY

Period Inception	Period Expiration	Evaluation Date	Limited Inc. Losses	Incurred LDF	Est. Ultimate Inc. Losses	Limited Paid Losses	Paid LDF	Est. Ultimate Paid Losses
1/1/2013	12/31/2013	11/1/2017	\$550,000	1.150	\$632,500	\$375,000	1.373	\$514,875
1/1/2014	12/31/2014	11/1/2017	\$850,000	1.192	\$1,013,200	\$450,000	1.494	\$672,300
1/1/2015	12/31/2015	11/1/2017	\$325,000	1.000	\$325,000	\$325,000	1.000	\$325,000
1/1/2016	12/31/2016	11/1/2017	\$675,000	1.449	\$978,075	\$550,000	2.417	\$1,329,350
1/1/2017	12/31/2017	11/1/2017	\$1,200,000	2.311	\$2,773,200	\$864,000	5.808	\$5,018,112

Loss Forecaster system-supplied LDFs were used to calculate ultimate losses.



### Loss Forecaster Loss Projection

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## Selected Estimated Ultimate Incurred Losses

EXAMPLE CLIENT STUDY

Period Inception	Period Expiration	Evaluation Date	Est. Ultimate Incurred Losses	Est. Ultimate Paid Losses	Selected Est. Ultimate Inc. Losses
1/1/2013	12/31/2013	11/1/2017	\$632,500	\$514,875	\$573,688
1/1/2014	12/31/2014	11/1/2017	\$1,013,200	\$672,300	\$842,750
1/1/2015	12/31/2015	11/1/2017	\$325,000	\$325,000	\$325,000
1/1/2016	12/31/2016	11/1/2017	\$978,075	\$1,329,350	\$1,153,713
1/1/2017	12/31/2017	11/1/2017	\$2,773,200	\$5,018,112	\$3,895,656

Selected estimated ultimate incurred losses were calculated based on the following weights:  
Incurred - 50%, Paid - 50%



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## Inflation Trend Factor Calculation

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Period Inception	Period Expiration	Payroll Adjustment Factor	Medical Care Adjustment Factor	Inflation Trend Factor
1/1/2013	12/31/2013	1.079	1.138	1.094
1/1/2014	12/31/2014	1.060	1.095	1.069
1/1/2015	12/31/2015	1.035	1.063	1.042
1/1/2016	12/31/2016	1.018	1.032	1.022
1/1/2017	12/31/2017	1.000	1.000	1.000

Inflation trend factors were calculated based on the following weights: Payroll - 75%, Medical Care - 25%



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**Excess of Threshold Data Input**

<b>Period Inception</b>	<b>Period Expiration</b>	<b>Threshold</b>	<b>Loss Limit</b>	<b>Losses Excess of Threshold</b>	<b>Total Losses Excess of Threshold</b>
1/1/2013	12/31/2013	\$224,258	\$250,000		\$0
1/1/2014	12/31/2014	\$234,098	\$250,000		\$0
1/1/2015	12/31/2015	\$239,923	\$250,000		\$0
1/1/2016	12/31/2016	\$244,618	\$250,000		\$0
1/1/2017	12/31/2017	\$250,000	\$250,000		\$0

**Loss Forecaster Loss Projection**

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## Loss Trend Adjustments

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Period Inception	Period Expiration	Est. Ultimate Incurred Losses	Benefit Level Change Factor (BLCF)	Inflation Trend Factor	Adjusted Losses
1/1/2013	12/31/2013	\$573,688	1.019	1.094	\$639,539
1/1/2014	12/31/2014	\$842,750	0.999	1.069	\$899,999
1/1/2015	12/31/2015	\$325,000	1.000	1.042	\$338,650
1/1/2016	12/31/2016	\$1,153,713	1.000	1.022	\$1,179,095
1/1/2017	12/31/2017	\$3,895,656	1.000	1.000	\$3,895,656



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## Exposure Trend Adjustments

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Period Inception	Period Expiration	Payroll	Payroll Adjustment Factor	Adjusted Payroll
1/1/2013	12/31/2013	\$75,000,000	1.079	\$80,925,000
1/1/2014	12/31/2014	\$78,000,000	1.060	\$82,680,000
1/1/2015	12/31/2015	\$65,000,000	1.035	\$67,275,000
1/1/2016	12/31/2016	\$71,000,000	1.018	\$72,278,000
1/1/2017	12/31/2017	\$69,500,000	1.000	\$69,500,000



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**Pure Loss Rate**

**EXAMPLE CLIENT STUDY**

**Projected Losses**

Projected Period Inception Date	Projected Period Expiration	Selected Proj. Pure Loss Rate	Projected Payroll	Projected Losses
1/1/2017	12/31/2017	\$1.92	\$88,000,000	\$1,689,600

**Average Pure Loss Rates**

System Weighted	2 Year	3 Year	All Years	User Weighted
\$1.87	\$3.62	\$2.58	\$1.92	\$1.92

**Policy Period Detail**

Period Inception	Period Expiration	Adjusted Losses	Adjusted Payroll	Pure Loss Rate per \$100 Payroll	User Defined Weight
1/1/2013	12/31/2013	\$639,539	\$80,925,000	\$0.79	1.0
1/1/2014	12/31/2014	\$899,999	\$82,680,000	\$1.09	1.0
1/1/2015	12/31/2015	\$338,650	\$67,275,000	\$0.50	1.0
1/1/2016	12/31/2016	\$1,179,095	\$72,278,000	\$1.63	1.0
1/1/2017	12/31/2017	\$3,895,656	\$69,500,000	\$5.61	1.0



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## Payout Schedule and Discount Rates

## EXAMPLE CLIENT STUDY

Calculated Projected Losses: \$1,689,600 **Scheduled Projected Losses: \$1,810,000** Selected Confidence Interval: 70%

### Payout Schedule

Period Inception	1/1/2017 to 1/1/2018	1/1/2018 to 1/1/2019	1/1/2019 to 1/1/2020	1/1/2020 to 1/1/2021	1/1/2021 to 1/1/2022	1/1/2022 to 1/1/2023	1/1/2023 to 1/1/2024	1/1/2024 to 1/1/2025	1/1/2025 to 1/1/2026	1/1/2026 to 1/1/2027	Totals
1/1/2017	\$446,052	\$529,457	\$296,793	\$178,660	\$116,462	\$77,523	\$56,541	\$43,235	\$35,011	\$30,266	\$1,810,000
Totals	\$446,052	\$529,457	\$296,793	\$178,660	\$116,462	\$77,523	\$56,541	\$43,235	\$35,011	\$30,266	\$1,810,000

### Expected Future Payments on Discounted Basis

2.00%	\$441,657	\$513,961	\$282,458	\$166,697	\$106,533	\$69,523	\$49,712	\$37,268	\$29,587	\$25,076	\$1,722,472
4.00%	\$437,390	\$499,207	\$269,073	\$155,744	\$97,619	\$62,481	\$43,817	\$32,217	\$25,085	\$20,852	\$1,643,485
6.00%	\$433,244	\$485,145	\$256,560	\$145,699	\$89,600	\$56,266	\$38,715	\$27,928	\$21,336	\$17,400	\$1,571,893

### Confidence Interval

50%	\$1,140,000	55%	\$1,270,000	60%	\$1,430,000
65%	\$1,600,000	70%	\$1,810,000	75%	\$2,070,000
80%	\$2,410,000	85%	\$2,860,000	90%	\$3,550,000
95%	\$4,910,000	99%	\$8,990,000	Other	



Loss Forecaster Loss Projection

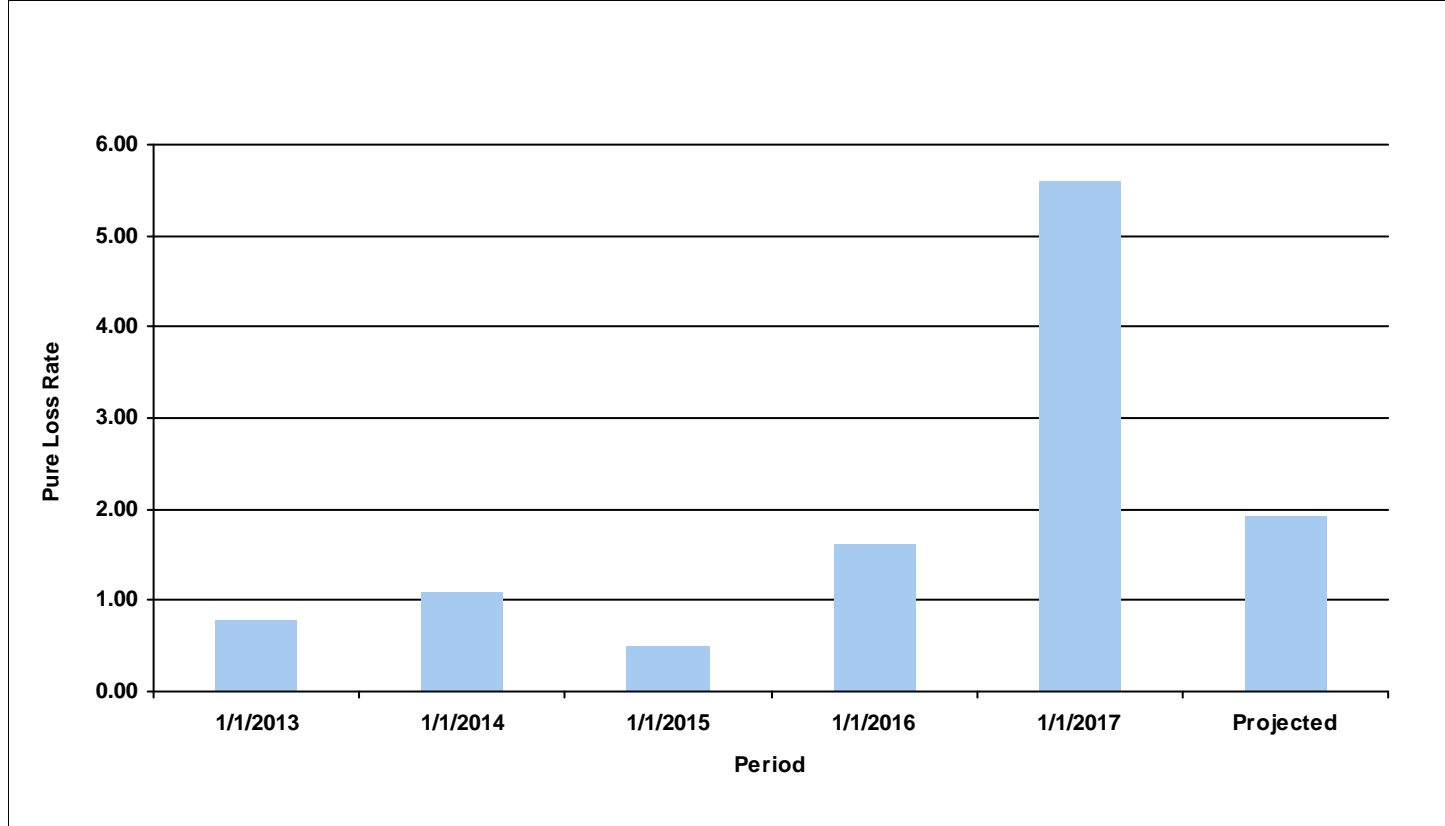
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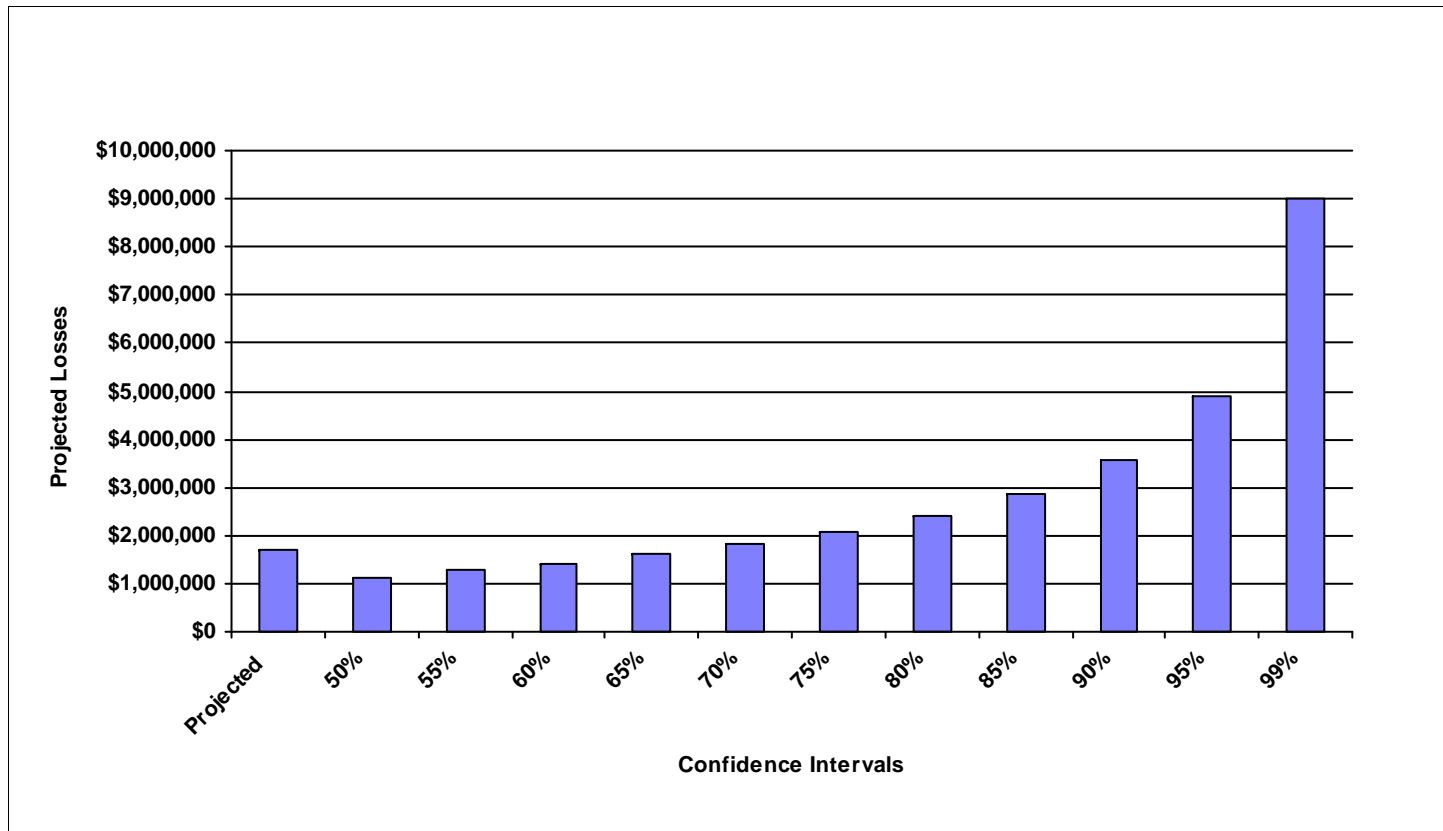
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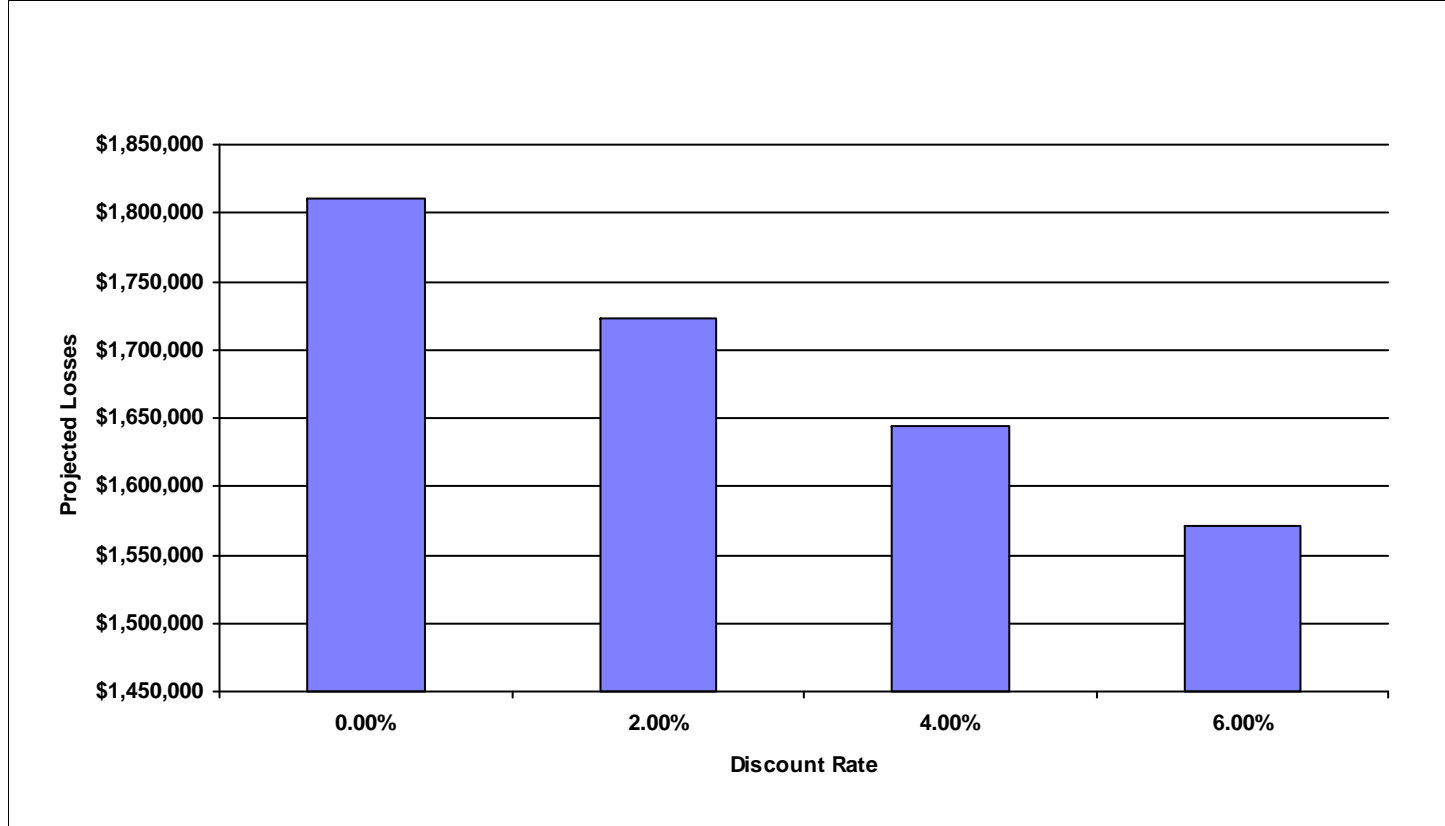
Period	Pure Loss Rate
1/1/2013	0.79
1/1/2014	1.09
1/1/2015	0.50
1/1/2016	1.63
1/1/2017	5.61
Projected	1.92





Confidence Interval	Projected Losses
Projected	\$1,689,600
50%	\$1,140,000
55%	\$1,270,000
60%	\$1,430,000
65%	\$1,600,000
70%	\$1,810,000
75%	\$2,070,000
80%	\$2,410,000
85%	\$2,860,000
90%	\$3,550,000
95%	\$4,910,000
99%	\$8,990,000





Discount Rate	Projected Losses
0.00%	\$1,810,000
2.00%	\$1,722,472
4.00%	\$1,643,485
6.00%	\$1,571,893

