



**Applicable Statue, Code, Policy, Rule or Regulation:** n/a

**Fiscal Impact:** estimated at \$706,809 including estimated claim costs, excess insurance premiums and other administrative charges.

**Explanation of Impact:** n/a

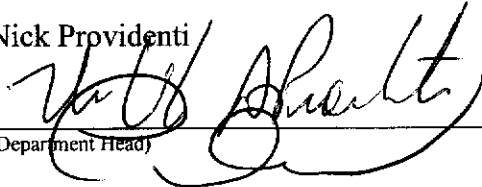
**Funding Source:** Workers' Compensation Insurance Fund

**Alternatives:** Elect not to enter in the agreements and not purse a self insured worker's compensation program and instead renew coverage with the Nevada Public Agency Compensation Trust.

**Supporting Material:** A copy of the quotes comparing PACT vs self insured as well as a copy of an Actuarial Forecast from Oliver Wyman.


**Prepared By:** Nick Providenti

**Reviewed By:**

  
\_\_\_\_\_  
(Department Head)

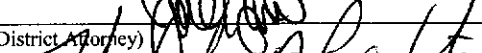
Date:

6/18/2010

  
\_\_\_\_\_  
(City Manager)

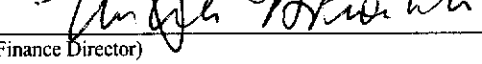
Date:

6/8/10

  
\_\_\_\_\_  
(District Attorney)

Date:

6/9/10

  
\_\_\_\_\_  
(Finance Director)

Date:

6/18/2010

**Board Action Taken:**

Motion: \_\_\_\_\_

1) \_\_\_\_\_

Aye/Nay

2) \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
(Vote Recorded By)

**Draft  
June 4, 2010**

**Workers' Compensation and Employer's Liability**

<b>Program Cost Comparison</b>	<b>PACT</b>	<b>Self-Insured</b>
Guaranteed Cost Premium	** \$1,594,733	-
Excess Self-Insured Premium	-	\$77,043 (Midwest Casualty)
Annual Administration Fee	-	\$33,750
Estimated Annual Medical/Indemnity/Allocated Loss Expenses for Claims	-	\$542,806 per Oliver Wyman Study
Annual State Assessments		\$45,000
State Security Bond Premium		\$6,500
State Insolvency Fund Assessment		\$1,710
<b>Total</b>		<b>\$629,766.00</b>

\*\* Estimate based on payroll

<b>Excess Self-Insured Coverage</b>	<b>Midwest</b>	<b>New York Marine</b>
Workers' Compensation Coverage	Statutory	Statutory
Employer's Liability Limit	\$1,000,000	\$1,000,000

<b>Self-Insured Retentions</b>	<b>Midwest</b>	<b>New York Marine</b>
<i>Police &amp; Fire Employees</i>	\$2,000,000	\$1,500,000
<i>All Other Employees</i>	\$750,000	\$400,000

<b>Self-Insured Premiums</b>	<b>Midwest</b>	<b>New York Marine</b>
<i>Annual Premium</i>	\$77,043	\$159,924

\*\* Carson City has not received the audited payroll amounts for calendar year 2009 as of 6/4/2010. If current payroll is used with FY 2011 rates, then the premium would be \$1,594,733.

April 2010

# Actuarial Forecast

Carson City, Nevada

Workers Compensation Experience  
as of December 31, 2009

**OLIVER WYMAN**

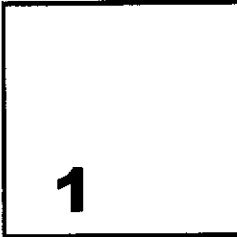
  
Scott J. Lefkowitz, FCAS, MAAA, FCA



MARSH MERCER KROLL  
GUY CARPENTER OLIVER WYMAN

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## INTRODUCTION

### Purpose

Oliver Wyman Actuarial Consulting, Inc. (Oliver Wyman) has been engaged by Carson City, Nevada (Carson City) to perform an actuarial forecast of workers compensation exposures. Specifically, Oliver Wyman has been requested to forecast ultimate losses and ALAE<sup>1</sup> due to workers compensation claims Carson City is expected to incur during the accident year beginning July 1, 2010 and ending June 30, 2011.<sup>2</sup> Forecasts will be provided at various per occurrence retentions.

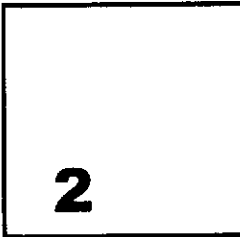
The forecasts presented in this report are intended to represent actuarial central estimates which, consistent with the applicable actuarial standard of practice, we define as the expected, or mean value over the range of reasonably possible (as opposed to all conceivable) outcomes.

Hereafter the term "accident year" refers to the year in which a claim occurred, regardless as to when a claim is reported, or when the cost of that claim is eventually reported or paid. The term "losses" refers to indemnity losses, medical losses, and ALAE combined, unless otherwise specified. ALAE include legal expenses and other expenses allocated to individual claims. Expenses other than ALAE are not considered in this study.

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<sup>1</sup> ALAE represents expenses that may be allocated to individual claims and typically includes the costs of legal defense, surveillance, document production and other similar expenses.

<sup>2</sup> Oliver Wyman selected this accident period. Estimates for other accident periods reasonably close to the 12 month period beginning July 1, 2010 will not be materially different from the estimate for the selected accident period.



## RESULTS

### Forecasts

Table 1 (below) displays forecasts of ultimate losses for the 12 month accident year beginning July 1, 2010. Forecasts are provided on both an unlimited<sup>3</sup> basis as well as at various per occurrence retentions.<sup>4</sup>

**Table 1: Forecasts of Ultimate Losses, by Retention  
July 1, 2010 – June 30, 2011**

Retention	Forecast
Unlimited	\$579,161
\$2,000,000	542,806
1,500,000	522,792
1,000,000	502,779
750,000	481,765
500,000	447,408

The forecasts in Table 1 are on a nominal (undiscounted) basis and have not been adjusted for the time value of money.<sup>5</sup> Additionally, the forecast is based on an

<sup>3</sup> Unlimited basis means without any excess insurance protection.

<sup>4</sup> In this context, the term "occurrence" refers to all individual claims filed due to injuries that result from a single incident (occurrence). The retention would be applied only once to the combined payments for all claims due to the incident, not individually to each claim. For example, in the event of an explosion that results in injuries to five employees and subsequently five individual claims, the explosion would be considered a single occurrence. Carson City would be responsible for the combined payments on all five claims up to the applicable retention. The retention would not be applied individually to each claim.

<sup>5</sup> Discounting using a specified interest rate reflects investment income that theoretically could be earned at a stated interest rate between the start of the forecast period (July 1, 2010) and the dates claim payments are actually made. In theory, the discounted forecast plus investment income will be sufficient to fund claim payments as they come due.

estimated payroll of \$40.7 million. Payroll was estimated by increasing the most recently available payroll amount by 2% per year.

The forecasts in Table 1 are derived by multiplying estimated payroll by forecasts of loss rates, or pure premiums. Pure premiums are the estimated cost of loss and ALAE during the applicable accident period per \$100 payroll. Forecasts of loss rates by retention are provided in Table 2 (below):

**Table 2: Pure Premiums and Forecasts, by Retention  
July 1, 2010 – June 30, 2011**

Retention	Pure Premium	Forecast
Unlimited	1.4232	\$579,161
\$2,000,000	1.3338	542,806
1,500,000	1.2847	522,792
1,000,000	1.2355	502,779
750,000	1.1838	481,765
500,000	1.0994	447,408

The forecasts in Table 2 are calculated by multiplying the applicable pure premium by the \$40.7 million estimated payroll.

### Impact of Discounting

Workers compensation claims in Carson City are generally short term. For accident years beginning 7/1/03, 7/1/04, 7/1/05, 7/1/06, and 7/1/07 there are only 1, 0, 0, 1, and 2 claims remaining open respectively, as of December 31, 2009. The impact of discounting becomes significant only when claim payments extend over a significant number of years. Given that Carson City closes claims relatively quickly, the impact of discount, even at relatively high interests (such as 4%, 5%, and 6%) is not significant. It is important to note that these comments apply to Carson City's expected loss experience, which is based on historical data. However, should Carson City incur a large claim with long term payments, the impact of discounting on this specific claim could be significant.

### Large Loss Incidence

The incidence of large claims at Carson City is small. Of the 600 claims reported with dates of loss on or after July 1, 2003, only 7 claims have incurred losses greater than \$50,000, as of December 31, 2009. The Table 3 (following page) displays the claim detail for each of these 7 claims.



**Table 3: Claim Detail: Claims reported as of 12/31/09 with Incurred Losses Greater than \$50,000**

Claim Number	Date of Loss	Claim Status	Total Paid	Total Reserve	Total Incurred
C143-03-00205 -01	9/16/03	Open	\$225,297	\$73,943	\$299,240
C143-07-01615 -01	2/1/07	Closed	74,132	0	74,132
C143-07-01736 -01	3/5/07	Open	27,275	51,572	78,848
C143-07-02210 -01	8/12/07	Open	63,346	1,601	64,948
C143-07-02347 -01	9/22/07	Closed	64,738	0	64,738
C143-07-02407 -01	10/10/07	Open	65,767	38,765	104,532
C143-07-02596 -01	12/25/07	Closed	161,202	0	161,202

Given the very low incidence of large losses at Carson City, the variation of pure premiums and loss forecasts by retention was based on a combination of insurance industry data as well as expectations based on Carson City's specific data.

We do note, however, that six of the largest claims occurred in calendar year 2007. Should a similar emergence of large claim occur in the forecast period, losses would likely be in excess of the forecasted value.

### Presumptive Benefits

The specific statutes governing the award of presumptive benefits in Nevada are:

- NRS 617.453 Cancer as occupational disease of firefighters.
- NRS 617.455 Lung diseases as occupational diseases of firefighters, police officers and arson investigators.
- NRS 617.457 Heart diseases as occupational diseases of firefighters, arson investigators and police officers.
- NRS 617.485 Hepatitis as occupational disease of police officers, firefighters and emergency medical attendants.
- NRS 617.487 Hepatitis as occupational disease of certain other police officers.

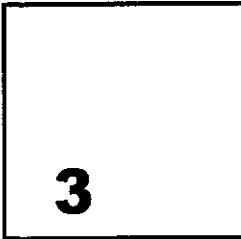
Examination of historical claims data from Carson City indicates that the cost or presumptive benefits has not been a material component of the City's overall workers compensation program costs. However, the potential for significant claims exists. The forecasts provided in the prior section include the expected cost of presumptive benefit claims to the extent that these claims are represented in the historical data provided for this analysis. As noted, the cost of these claims has not been significant.

### Consideration of Uncertainty

During the process of estimating forecasts, Oliver Wyman gave consideration to insurance industry data, Carson City's experience, and our own experience and professional judgment. We also considered the stability of our selection process, in that

the selection process should not add to the potential for statistical fluctuation between reports.

We believe the techniques and judgments relied upon reflect an actuarial central estimate of ultimate losses. However, the reader should note that the relatively small volume of annual losses at Carson City introduces additional uncertainty into our analysis. For example, the effect of one additional \$250,000 claim during the forecast period would materially increase ultimate losses. While such an event is unlikely (based on Carson City's history), Carson City should be aware of the relatively large uncertainty surrounding the estimates presented in this report.

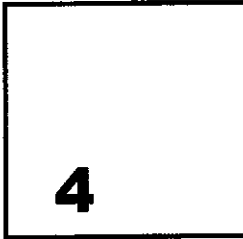


### **Consideration of Self-Insurance**

Currently, Carson City pays an annual premium of \$1.5 million as a member of a self-insurance pool. Expected annual workers compensation losses are approximately \$550,000. Additionally, should the city adopt a self-insurance program, the cost incurred by the city to run this program would be an estimated \$100,000 to \$150,000 per year. The net result would likely be a substantial annual savings relative to the current arrangement.

Nevertheless, despite the potential savings, the City would be assuming substantial risk under self-insurance, with the potential for a wide variance of results from one year to the next. However, it is Oliver Wyman's understanding that the City already has a fund of over \$2 million. As such, the City already has a fund to absorb unexpected large loss experience for the first few years of self-insurance, should such loss experience occur. Additionally, as respects presumptive benefits, self-insurance will represent a "fresh start" for the City, as all presumptive benefit claims with dates of loss prior to the date of self-insurance, will be the responsibility of the prior pooling arrangement.

Our understanding is that for the initial self-insured year (2011), Carson City will collect the same premium charge as under the pooling arrangement, \$1.5 million, and use the excess to increase the fund to over \$3.5 million. The fund will then serve as a contingency reserve for large claims (traumatic or presumptive benefit) should they occur. For future years, premium charges will be gradually reduced to reflect actual loss experience under the self-insurance program. This approach appears to be prudent and reasonable, and will likely, based on actual loss experience, result in significant cost savings to the City over the long term.



## **DATA UTILIZED FOR THIS STUDY**

### Data Provided by Carson City

- Payroll and Employee Count for the 12 month periods beginning 6/1/06, 6/1/07 and 6/1/08.
- Detailed claim information (paid and incurred losses, date of loss, etc.) for all claims occurring between 7/1/03 and 12/31/09 as of December 31, 2009.

### Insurance Industry Data Utilized for This Study

- Loss Development Data
- Excess Loss Data

**5****METHODOLOGY AND ANALYSIS**

The process of calculating forecasts of the cost of claims during future experience periods is accomplished by the following steps:

- Estimate Ultimate Losses for Prior Accident Years
- Estimate Pure Premiums for Prior Accident Years
- Estimate Pure Premiums for Future Accident Years
- Estimate the Impact of per Occurrence Retentions

Each step is discussed individually.

**Estimate Ultimate Losses for Prior Accident Years**

Six generally accepted actuarial techniques were used. The methods utilized in this analysis are:

- Reported loss development method
- Paid loss development method
- Reported Bornhuetter-Ferguson method
- Paid Bornhuetter-Ferguson method
- Pure Premium Method
- Frequency/Severity Method

A detailed description of each method and the selection process follows.

*Method 1 - Reported Loss Development Method*

Under the reported loss development method, a the historical loss reporting pattern is applied directly to the latest reported losses (case unpaid losses plus cumulative paid losses) to project ultimate loss. Insurance industry data is utilized as a supplement to the extent that historical data is not available.

*Method 2 - Paid Loss Development Method*

Under the paid loss development method, a mathematical procedure similar to the reported loss development method is used. Paid losses are used in place of reported losses and historical payment patterns are used in place of reporting patterns.

*Method 3 - Reported Bornhuetter-Ferguson Method*

Under the reported Bornhuetter-Ferguson method, a historical reporting pattern is used to estimate the percentage of ultimate loss that is unreported as of the valuation date. This percentage is then multiplied by an expected ultimate loss to estimate unreported losses. Estimated ultimate loss equals the sum of the actual reported losses and the estimated unreported losses. The expected ultimate loss is based on an average of results of the pure premium method and the frequency severity method.

*Method 4 - Paid Bornhuetter-Ferguson Method*

Under the paid Bornhuetter-Ferguson method, a mathematical procedure similar to the reported Bornhuetter-Ferguson method is used. A historical payment pattern is used to estimate the percentage of ultimate loss that is unpaid as of the valuation date. This percentage is then multiplied by an expected ultimate loss to estimate unpaid losses. Estimated ultimate loss equals the sum of the actual paid losses and the estimated unpaid losses. The expected ultimate loss is based on an average of results of the pure premium method and the frequency severity method.

*Method 5 - Pure Premium Method*

Results of the loss development methods are used to determine initial estimates of pure premium by accident year. The initial estimates are adjusted to a common cost level and averaged. The average is adjusted back to historical cost levels and multiplied by historical payroll to estimate ultimate losses.

*Method 6 - Frequency/Severity Method*

The Frequency/Severity Method estimates the ultimate unlimited loss by multiplying the selected ultimate number of claims by the selected ultimate severity.

Estimates of ultimate losses by accident year are selected based on the results of the six methods. Considerations during the selection process included, but were not limited to, the following:

- Uniformity of results between methods
- Reported losses
- Paid losses
- Case reserves
- Effect of large losses

## Estimate Pure Premiums for Prior Accident Years

Pure premiums are equal to the ratio of selected ultimate losses to payroll (in units of \$100) for each individual accident year.

### *Selection of Estimated Ultimate Unlimited Losses*

The selection of estimated ultimate unlimited losses is displayed on Exhibit 2. Considerations during the selection process included, but were not limited to, the following:

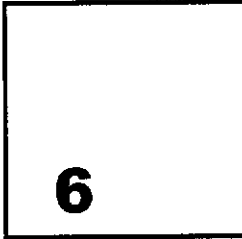
- Uniformity of results between methods
- Reported losses
- Paid losses
- Case reserves
- Effect of large losses

## Estimate Pure Premiums for Future Accident Years

Pure premiums for prior accident years are adjusted to the cost level expected to be in effect during the future exposure period under consideration. This is July 1, 2010 through June 30, 2011, in this report. The adjusted pure premiums are averaged to select a pure premium in effect during the 12 month period beginning July 1, 2010.

## Estimate the Impact of Per Occurrence Retentions

Insurance industry data is used as a starting point to reflect the impact of per occurrence retentions.



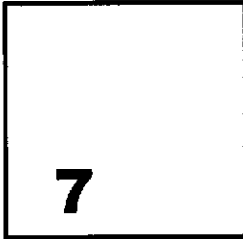
**ACKNOWLEDGEMENT**

I, Scott J. Lefkowitz, am a Director and Principal for Oliver Wyman Actuarial Consulting Inc. I am a member of the American Academy of Actuaries, a Fellow of the Casualty Actuarial Society, and a Fellow of the Conference of Consulting Actuaries.

I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

  
\_\_\_\_\_  
Scott J. Lefkowitz, FCAS, MAAA, FCA





## CAVEATS AND LIMITATIONS

1. Entire Document

The conclusions within this study are developed in the accompanying text and exhibits, which together comprise the report. The report was prepared for the sole use of Carson City, Nevada. Distribution to others without our prior written consent is unauthorized. With our consent, the report may be distributed only in its entirety.

2. Data Reliance

The data for this study was provided by Carson City. In the study, we relied on the accuracy and completeness of this data without independent audit. If the data is inaccurate or incomplete, our findings and conclusions may need to be revised.

3. Valuation Date

The study is based on an accounting date and valuation date of December 31, 2009, and information provided to Oliver Wyman on or before April 1, 2010.

4. Losses

Losses are recorded in actual dollars, unless otherwise noted.

5. Tax Advice

The information and advice contained in this document is not intended by Oliver Wyman to be used, and it cannot be used, for the purpose of avoiding penalties under the Internal Revenue Code that may be imposed on the taxpayer.

6. Management Reliance

Information concerning Carson City's program structure and risk exposure was provided by Carson City. In the study, we relied on the accuracy and completeness of this information without independent verification. If the information is inaccurate or incomplete, our findings and conclusions may need to be revised.

7. Administrative Costs

Oliver Wyman's estimates include a provision for losses as provided by the workers compensation statute, and allocated loss adjustment expense. Oliver Wyman's estimates do not provide the costs associated with the administration of a self insured program such as: claims handling, actuarial, risk management, taxes, etc.

8. Study Foundations

The study conclusions were based on analysis of the available data and on the estimation of many contingent events. Future costs were developed from the historical claim experience and covered exposure, with adjustments for anticipated changes.

9. Underlying Assumptions

In addition to the assumptions stated in the report, numerous other assumptions underlie the calculations and results presented herein.

10. Significant Digits

Numbers in the exhibits generally display more significant digits than their accuracy suggests. The purpose is to simplify review of the calculations. Not all digits used in calculations are displayed in the report for the sake of clarity.

11. Consistency

The conclusions are predicated on the assumptions that the selected reporting, reserving, and payment patterns, frequency and severity trends, and claim distributions apply, and will continue to apply, to the program. The risk exposure covered by the program as well as the claim reserving, management, and settlement practices are assumed to be consistent over time, except as noted.

12. Uncertainty

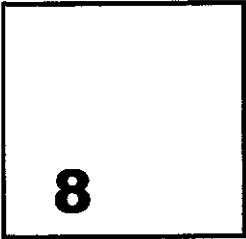
Due to the uncertainties inherent in the estimation of future costs, it cannot be guaranteed that the estimates set forth in the report will not prove to be inadequate or excessive. Actual costs may vary significantly from our estimates.

13. Unanticipated Changes

Unanticipated changes in factors such as judicial decisions, legislation actions, claim consciousness, claim management, claim settlement practices, and economic conditions may significantly alter the conclusions.

14. Actuarial Central Estimate

These caveats and limitations notwithstanding, the conclusions represent our central estimate of the actuarial status and funding requirements of the program as of the date of this report.



**EXHIBITS**

**Carson City  
Workers Compensation**

**Impact of Retention**

Prospective Retention	Pure Premium	Estimated Payroll	Forecast 7/1/10 to 6/30/11
(1)	(2)	(3)	(4)
Unlimited	1.4232	\$40,694,937	\$579,161
\$2,000,000	1.3338	40,694,937	542,806
1,500,000	1.2847	40,694,937	522,792
1,000,000	1.2355	40,694,937	502,779
750,000	1.1838	40,694,937	481,765
500,000	1.0994	40,694,937	447,408

**Notes:**

**Losses include Allocated Loss Adjustment Expense.**

- (2) Based on Exhibit 1, Page 2, Row (7C) and actuarial judgment.
- (3) Exhibit 1, Page 2, Row (8)
- (4) [(2) \* (3) / 100]

**Carson City  
Workers Compensation**

**Estimated Ultimate Unlimited Loss for Program Period 7/01/10 - 6/30/11**

Accident Year (1)	Estimated Ultimate Unlimited Loss (2)	Payroll (\$00s) (3)	Initial Unlimited Pure Premium (4)	Trend Factor (5)	Trended Unlimited Pure Premium (6)
07/01/2003 - 06/30/2004	\$503,909				
07/01/2004 - 06/30/2005	233,720				
07/01/2005 - 06/30/2006	164,729				
07/01/2006 - 06/30/2007	353,583	\$373,961	0.95	1.000	0.95
07/01/2007 - 06/30/2008	589,220	378,008	1.56	1.000	1.56
07/01/2008 - 06/30/2009	487,953	391,147	1.25	1.000	1.25
07/01/2009 - 06/30/2010	458,890	398,970	1.15	1.000	1.15

Latest Four Years	1.23
Latest Three Years	1.32
Four Year excluding highest and lowest values	1.20
Latest Two Years	1.20

(7A) First Initial Selected Unlimited Pure Premium	1.20
(7B) Second Initial Selected Unlimited Pure Premium	1.65
(7C) Selected Unlimited Pure Premium	1.42

(8) Projected Payroll (\$00s) for Program Period 7/01/10 - 6/30/11	\$406,949
(9) Selected Ultimate Unlimited Loss for Program Period 7/01/10 - 6/30/10	\$579,161

**Notes:**

**Losses include Allocated Loss Adjustment Expense.**

- (2) Exhibit 2, Column (12)
- (3) Provided by Carson City. '09-'10 Payroll assumes 2% increase from previous year.
- (4) [(2) / (3)]
- (5), (7) Selected based on actuarial judgment.
- (6) [(4) \* (5)]
- (7A) Selected based on averages above.
- (7B) Selected based on industry excess loss experience.
- (7C) Average of (7A) and (7B)
- (8) Assumes a 2% increase in payroll from previous year.
- (9) [(7C) \* (8)]

**Carson City  
Workers Compensation**

Accident Year (1)	Reported Unlimited Losses as of 12/31/09 (2)	Paid Unlimited Losses as of 12/31/09 (3)	Unlimited Case Reserves as of 12/31/09 (4)	Open Claim Counts (5)	Indicated Ultimate Unlimited Loss					Estimated Ultimate Unlimited Loss (12)	
					Method 1: Reported LD (6)	Method 2: Paid LD (7)	Method 3: Reported B-F (8)	Method 4: Paid B-F (9)	Pure Premium Method (10)		Method 5: Frequency/ Severity (11)
07/01/2003 - 06/30/2004	\$474,029	\$400,086	\$73,943	1	\$504,485	\$469,428	\$503,332	\$471,744		\$485,165	\$503,909
07/01/2004 - 06/30/2005	204,257	204,257	0	0	219,554	245,048	222,393	247,580		260,199	233,720
07/01/2005 - 06/30/2006	139,885	139,885	0	0	151,865	173,189	156,269	179,819		207,666	164,729
07/01/2006 - 06/30/2007	317,382	265,810	51,572	1	353,309	348,597	355,085	353,857	\$517,080	370,724	353,583
07/01/2007 - 06/30/2008	479,109	438,742	40,366	2	557,606	657,279	556,217	620,834	522,676	572,610	589,220
07/01/2008 - 06/30/2009	365,236	312,844	52,391	7	479,526	774,256	496,381	640,790	540,843	559,829	487,953
07/01/2009 - 06/30/2010	108,949	41,517	67,432	19	342,530	443,770	438,377	479,402	551,660	414,547	458,890
<b>Total</b>	<b>\$2,088,845</b>	<b>\$1,803,140</b>	<b>\$285,705</b>	<b>30</b>	<b>\$2,608,875</b>	<b>\$3,111,568</b>	<b>\$2,728,054</b>	<b>\$2,994,025</b>	<b>XXX</b>	<b>\$2,870,741</b>	<b>\$2,792,004</b>

**Notes:**  
**Losses include Allocated Loss Adjustment Expense.**  
 (2), (3), (4), (5) Provided by Carson City.  
 (6) Exhibit 3, Page 1, Column (4)  
 (7) Exhibit 3, Page 2, Column (4)  
 (8) Exhibit 4, Page 1, Column (6)  
 (9) Exhibit 4, Page 2, Column (6)  
 (10) Exhibit 5, Column (9)  
 (11) Exhibit 6, Page 1, Column (4)  
 (12) Selected based on actuarial judgment.

**Carson City  
Workers Compensation**

**Indicated Ultimate Unlimited Loss  
Method 1 - Reported Loss Development**

Accident Year (1)	Reported Unlimited Losses (2)	Reported CDF at 12/31/09 (3)	Indicated Ultimate Unlimited Loss (4)
07/01/2003 - 06/30/2004	\$474,029	1.064	\$504,485
07/01/2004 - 06/30/2005	204,257	1.075	219,554
07/01/2005 - 06/30/2006	139,885	1.086	151,865
07/01/2006 - 06/30/2007	317,382	1.113	353,309
07/01/2007 - 06/30/2008	479,109	1.164	557,606
07/01/2008 - 06/30/2009	365,236	1.313	479,526
07/01/2009 - 06/30/2010	108,949	3.144	342,530
<b>Total</b>	<b>\$2,088,845</b>	<b>XXX</b>	<b>\$2,608,875</b>

**Notes:**

**Losses include Allocated Loss Adjustment Expense.**

- (2) Provided by Carson City.
- (3) Exhibit 7, Page 1, Column (7)
- (4) [(2) \* (3)]

**Carson City  
Workers Compensation**

**Indicated Ultimate Unlimited Loss  
Method 2 - Paid Loss Development**

Accident Year (1)	Paid Unlimited Losses (2)	Paid CDF at 12/31/09 (3)	Indicated Ultimate Unlimited Loss (4)
07/01/2003 - 06/30/2004	\$400,086	1.173	\$469,428
07/01/2004 - 06/30/2005	204,257	1.200	245,048
07/01/2005 - 06/30/2006	139,885	1.238	173,189
07/01/2006 - 06/30/2007	265,810	1.311	348,597
07/01/2007 - 06/30/2008	438,742	1.498	657,279
07/01/2008 - 06/30/2009	312,844	2.475	774,256
07/01/2009 - 06/30/2010	41,517	10.689	443,770
<b>Total</b>	<b>\$1,803,140</b>	<b>XXX</b>	<b>\$3,111,568</b>

**Notes:**

**Losses include Allocated Loss Adjustment Expense.**

- (2) Provided by Carson City.
- (3) Exhibit 7, Page 2, Column (7)
- (4) [(2) \* (3)]



**Carson City  
Workers Compensation**

**Indicated Ultimate Unlimited Loss  
Method 3: Reported Burnhutter-Ferguson Technique**

Accident Year (1)	Reported Unlimited Losses as of 12/31/09 (2)	Expected Ultimate Unlimited Loss (3)	Reported Cumulative Development Factor (4)	Percent Unreported (5)	Indicated Ultimate Unlimited Loss (6)
07/01/2003 - 06/30/2004	\$474,029	\$485,165	1.064	6.04%	\$503,332
07/01/2004 - 06/30/2005	204,257	260,199	1.075	6.97%	222,393
07/01/2005 - 06/30/2006	139,885	207,666	1.086	7.89%	156,269
07/01/2006 - 06/30/2007	317,382	370,724	1.113	10.17%	355,085
07/01/2007 - 06/30/2008	479,109	547,643	1.164	14.08%	556,217
07/01/2008 - 06/30/2009	365,236	550,336	1.313	23.83%	496,381
07/01/2009 - 06/30/2010	108,949	483,103	3.144	68.19%	438,377
<b>Total</b>	<b>\$2,088,845</b>	<b>\$2,904,837</b>	<b>XXX</b>	<b>XXX</b>	<b>\$2,728,054</b>

**Notes:**

**Losses include Allocated Loss Adjustment Expense.**

- (2) Provided by Carson City.
- (3) Exhibit 4, Page 3, Column (5)
- (4) Exhibit 7, Page 1, Column (7)
- (5)  $[1 - 1 / (4)]$
- (6)  $[(2) + (3) * (5)]$

**Carson City  
Workers Compensation**

**Indicated Ultimate Unlimited Loss  
Method 4: Paid Benchmark Ferguson Technique**

Accident Year	Paid Unlimited Losses as of 12/31/09	Expected Ultimate Unlimited Loss	Paid Cumulative Development Factor	Percent Unpaid	Indicated Ultimate Unlimited Loss
(1)	(2)	(3)	(4)	(5)	(6)
07/01/2003 - 06/30/2004	\$400,086	\$485,165	1.173	14.77%	\$471,744
07/01/2004 - 06/30/2005	204,257	260,199	1.200	16.65%	247,580
07/01/2005 - 06/30/2006	139,885	207,666	1.238	19.23%	179,819
07/01/2006 - 06/30/2007	265,810	370,724	1.311	23.75%	353,857
07/01/2007 - 06/30/2008	438,742	547,643	1.498	33.25%	620,834
07/01/2008 - 06/30/2009	312,844	550,336	2.475	59.59%	640,790
07/01/2009 - 06/30/2010	41,517	483,103	10.689	90.64%	479,402
<b>Total</b>	<b>\$1,803,140</b>	<b>\$2,904,837</b>	<b>XXX</b>	<b>XXX</b>	<b>\$2,994,025</b>

**Notes:**

**Losses include Allocated Loss Adjustment Expense.**

- (2) Provided by Carson City.
- (3) Exhibit 4, Page 3, Column (5)
- (4) Exhibit 7, Page 2, Column (7)
- (5)  $[1 - 1 / (4)]$
- (6)  $[(2) + (3) * (5)]$

**Carson City  
Workers Compensation**

**Calculation of Expected Ultimate Unlimited Loss**

Accident Year (1)	Indicated Ultimate Unlimited Loss		Previous Estimate of Ultimate Unlimited Loss (4)	Expected Ultimate Unlimited Loss (5)
	Pure Premium Method (2)	Method 5: Frequency/Severity (3)		
07/01/2003 - 06/30/2004		\$485,165	N/A	\$485,165
07/01/2004 - 06/30/2005		260,199	N/A	260,199
07/01/2005 - 06/30/2006		207,666	N/A	207,666
07/01/2006 - 06/30/2007	\$517,080	370,724	N/A	370,724
07/01/2007 - 06/30/2008	522,676	572,610	N/A	547,643
07/01/2008 - 06/30/2009	540,843	559,829	N/A	550,336
07/01/2009 - 06/30/2010	551,660	414,547	N/A	483,103
<b>Total</b>	<b>XXX</b>	<b>\$2,870,741</b>	<b>XXX</b>	<b>\$2,904,837</b>

**Notes:**

**Losses include Allocated Loss Adjustment Expense.**

- (2) Exhibit 5, Column (9)
- (3) Exhibit 6, Page 1, Column (4)
- (4) N/A
- (5) Selected based on actuarial judgment.

**Carson City  
Workers Compensation**

**Indicated Ultimate Unlimited Loss - Pure Premium Method**

Accident Year (1)	Initial Ultimate Unlimited Loss (2)	Payroll (\$00s) (3)	Initial Pure Premium (4)	Cost Adjustment Factor (5)	Adjusted Pure Premium (6)	Selected Pure Premium (7)	Selected Pure Premium at Historical Cost (8)	Indicated Ultimate Unlimited Loss (9)
07/01/2003 - 06/30/2004								
07/01/2004 - 06/30/2005								
07/01/2005 - 06/30/2006								
07/01/2006 - 06/30/2007	\$350,953	\$373,961	0.94	1.000	0.94	1.38	1.38	\$517,080
07/01/2007 - 06/30/2008	607,443	378,008	1.61	1.000	1.61	1.38	1.38	522,676
07/01/2008 - 06/30/2009	626,891	391,147	1.60	1.000	1.60	1.38	1.38	540,843
07/01/2009 - 06/30/2010	393,150	398,970	0.99	1.000	0.99	1.38	1.38	551,660
<b>Total</b>	<b>\$1,978,437</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>\$2,132,258</b>

Column (6) Averages (Excluding Latest Year)

1.60 All years ex. hi/lo

1.38 All Years

1.60 Latest 2 Years

**1.38 Selected Pure Premium**

**Notes:**

**Losses include Allocated Loss Adjustment Expense.**

- (2) Average of Exhibit 3, Page 1, Column (4) and Exhibit 3, Page 2, Column (4).
- (3) Provided by Carson City. '09-'10 Payroll assumes 2% increase from previous year.
- (4) [(2) / (3)]
- (5), (7) Selected based on actuarial judgment.
- (6) [(4) \* (5)]
- (8) [(7) / (5)]
- (9) [(3) \* (8)]

**Carson City  
Workers Compensation**

Indicated Ultimate Unlimited Loss  
Method: Frequency / Severity Method

Accident Year (1)	Selected Ultimate Claims (2)	Selected Ultimate Severity (3)	Indicated Ultimate Unlimited Loss (4)
07/01/2003 - 06/30/2004	96	\$5,054	\$485,165
07/01/2004 - 06/30/2005	101	2,576	260,199
07/01/2005 - 06/30/2006	101	2,056	207,666
07/01/2006 - 06/30/2007	113	3,291	370,724
07/01/2007 - 06/30/2008	81	7,042	572,610
07/01/2008 - 06/30/2009	81	6,893	559,829
07/01/2009 - 06/30/2010	78	5,339	414,547
<b>Total</b>	<b>651</b>	<b>XXX</b>	<b>\$2,870,741</b>

**Notes:**

**Losses include Allocated Loss Adjustment Expense.**

- (2) Exhibit 6, Page 2, Column (14)
- (3) Exhibit 6, Page 3, Column (12)
- (4) [(2) \* (3)]

**Carson City  
Workers Compensation**

**Calculation of Expected Frequency**

Accident Year (1)	Reported Claim Count @ 12/31/09 (2)	Claim Count Dev't Factor (3)	Initial Estimate of Ultimate Claims (4)	Payroll (\$00s) (5)	Inflation Adjustment (6)	Adjusted Payroll (\$00s) (7)	Initial Frequency (8)	Frequency Trend (9)	Trended Adjusted Frequency (10)	Selected Trended Adjusted Frequency (11)	Selected Frequency at Historical Trend (12)	Expected Ultimate Claims (13)	Selected Ultimate Claims (14)
07/01/2003 - 06/30/2004	96	1.000	96										96
07/01/2004 - 06/30/2005	101	1.000	101										101
07/01/2005 - 06/30/2006	101	1.003	101										101
07/01/2006 - 06/30/2007	112	1.008	113	\$373,961	1.093	\$408,646	2.763	1.000	2.763	2.022	2.209	83	113
07/01/2007 - 06/30/2008	80	1.016	81	378,008	1.061	401,029	2.028	1.000	2.028	2.022	2.145	81	81
07/01/2008 - 06/30/2009	77	1.055	81	391,147	1.030	402,873	2.016	1.000	2.016	2.022	2.082	81	81
07/01/2009 - 06/30/2010	33	2.240	74	398,970	1.000	398,970	1.853	1.000	1.853	2.022	2.022	81	78
<b>Total</b>	<b>600</b>	<b>XXX</b>	<b>648</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>651</b>

Column (10) Averages (Excluding Latest Year)

2.028 All Year ex hi/lo  
2.269 All Years  
2.022 Latest 2 Years

**2.022 Selected Trended Frequency**

**Notes:**

**Losses include Allocated Loss Adjustment Expense.**

(2), (5) Provided by Carson City. '09-'10 Payroll assumes 2% increase from previous year.

(3) Based on Industry data and actuarial judgment.

(4) [(2) \* (3)]

(6), (9), (11), (14) Selected based on actuarial judgment.

(7) [(5) \* (6)]

(8) [(4) / (7)] \* 10,000

(10) [(8) \* (9)]

(12) [(11) / (9) \* (6)]

(13) [(12) \* (5)] / 10,000

**Carson City  
Workers Compensation**

**Calculation of Expected Severity**

Accident Year (1)	Unlimited Reported Losses @ 12/31/09 (2)	Reported Claim Count @ 12/31/09 (3)	Reported Severity (4)	Initial Ultimate Unlimited Loss (5)	Selected Ultimate Claims (6)	Initial Ultimate Severity (7)	Severity Trend Factor (8)	Trended Unlimited Severity (9)	Selected Trended Unlimited Severity (10)	Expected Ult. Unlim. Severity at Historical Trend Level (11)	Selected Ultimate Unlimited Severity (12)
07/01/2003 - 06/30/2004	\$474,029	96	\$4,938	\$486,957	96	\$5,072	1.340	\$6,798	\$5,855	\$4,369	\$5,054
07/01/2004 - 06/30/2005	204,257	101	2,022	232,301	101	2,300	1.276	2,935	5,855	4,588	2,576
07/01/2005 - 06/30/2006	139,885	101	1,385	162,527	101	1,609	1.216	1,956	5,855	4,817	2,056
07/01/2006 - 06/30/2007	317,382	112	2,834	350,953	113	3,115	1.158	3,606	5,855	5,058	3,291
07/01/2007 - 06/30/2008	479,109	80	5,989	607,443	81	7,471	1.103	8,236	5,855	5,311	7,042
07/01/2008 - 06/30/2009	365,236	77	4,743	626,891	81	7,719	1.050	8,104	5,855	5,577	6,893
07/01/2009 - 06/30/2010	108,949	33	3,301	393,150	78	5,063	1.000	5,063	5,855	5,855	5,339
<b>Total</b>	<b>\$2,088,845</b>	<b>600</b>	<b>XXX</b>	<b>\$2,860,222</b>	<b>651</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>

Column (9) Averages (Excluding Latest Year)

\$5,361 All Year ex hi/lo  
4,882 Latest 5 Years ex hi/lo  
5,855 Latest 4 Years ex hi/lo  
4,968 Latest 5 Years  
5,476 Latest 4 Years  
6,649 Latest 3 Years  
8,170 Latest 2 Years  
**\$5,855 Selected Trended Severity**

**Notes:**

Losses include Allocated Loss Adjustment Expense.

(2), (3) Provided by Carson City.

(4) [(2) / (3)]

(5) Average of Exhibit 3, Page 1, Column (4) and Exhibit 3, Page 2, Column (4).

(6) Exhibit 6, Page 2, Column (14)

(7) [(5) / (6)]

(8), (10), (12) Selected based on actuarial judgment.

(9) [(7) \* (8)]

(11) [(10) / (8)]

**Carson City  
Workers Compensation**

**Reported Cumulative Development Factors**

Age (in Months)	Industry Loss Development Factors		Selected Loss Development Factors	Selected Cumulative Development Factors	Required Age (in Months)	Required Cumulative Development Factors
	Nevada	Country- Wide				
(1)	(2)	(3)	(4)	(5)	(6)	(7)
96 - Ult	—	1.102	1.050	1.050		
84	—	1.009	1.009	1.059	78	1.064
72	1.011	1.014	1.010	1.070	66	1.075
60	1.008	1.017	1.010	1.080	54	1.086
48	1.010	1.024	1.010	1.091	42	1.113
36	1.041	1.041	1.041	1.136	30	1.164
24	1.050	1.085	1.050	1.193	18	1.313
12	1.212	1.311	1.212	1.445	6	3.144

**Notes:**

**Losses include Allocated Loss Adjustment Expense.**

- (2), (3) From NCCI 2009 Statistical Bulletin.
- (4) Selected based on actuarial judgment.
- (5) Column (4) accumulated to ultimate.
- (6) Required accident year age (in months) as of December 31, 2009.
- (7) Column (5) interpolated to reflect age as of December 31, 2009.



**Carson City  
Workers Compensation**

**Pain Cumulative Development Factors**

Age (in Months)	Industry Loss Development Factors		Selected Loss Development Factors	Selected Cumulative Development Factors	Required Age (in Months)	Required Cumulative Development Factors
	Nevada	Country- Wide				
(1)	(2)	(3)	(4)	(5)	(6)	(7)
96 - Ult	—	1.203	1.146	1.146		
84	—	1.023	1.015	1.163	78	1.173
72	1.018	1.031	1.018	1.184	66	1.200
60	1.027	1.045	1.027	1.216	54	1.238
48	1.037	1.068	1.037	1.261	42	1.311
36	1.082	1.121	1.082	1.364	30	1.498
24	1.206	1.261	1.206	1.645	18	2.475
12	2.263	2.124	2.263	3.723	6	10.689

**Notes:**

**Losses include Allocated Loss Adjustment Expense.**

- (2), (3) From NCCI 2009 Statistical Bulletin.
- (4) Selected based on actuarial judgment.
- (5) Column (4) accumulated to ultimate.
- (6) Required accident year age (in months) as of December 31, 2009.
- (7) Column (5) interpolated to reflect age as of December 31, 2009.

**Carson City  
Workers Compensation**

**Claims with Incurred Loss Greater than \$50,000**

Claim Number (1)	Date of Loss (2)	Unlimited Paid Loss as of 12/31/2009 (3)	Unlimited Case Reserves as of 12/31/2009 (4)	Unlimited Incurred Loss as of 12/31/2009 (5)
C143-03-00205 -01	09/16/03	\$225,297	\$73,943	\$299,240
C143-07-01615 -01	02/01/07	74,132	0	74,132
C143-07-01736 -01	03/05/07	27,275	51,572	78,848
C143-07-02210 -01	08/12/07	63,346	1,601	64,948
C143-07-02347 -01	09/22/07	64,738	0	64,738
C143-07-02407 -01	10/10/07	65,767	38,765	104,532
C143-07-02596 -01	12/25/07	161,202	0	161,202

**Notes:**

**Losses include Allocated Loss Adjustment Expense.**

(1) through (5) Provided by Carson City.

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