

## WorkCover Western Australia

### Overview Summary of the Actuarial Report on the Recommended Premium Rates for 2005/06 for Western Australian Workers' Compensation Insurance

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#### 1 Overview summary

This overview summary is extracted from the report presented to WorkCover Western Australia (WorkCover WA). The summary in no way replaces the full report dated 20 April 2005 and the reliances and limitations stated therein, rather it is intended for broad communication purposes only.

#### 2 Background

The recommended premium rates are published annually, usually during the June quarter, in the Government Gazette. The published rates broadly follow the Australian and New Zealand Standard Industrial Classification 1993 (ANZSIC) and are sub-divided into 480 classes. This classification standard was introduced from the 1994/95 year. The rates are a guide to insurance companies when underwriting the workers' compensation insurance risks of employers. Depending upon an employers' risk profile and past experience, insurers may discount the recommended rates by any amount, or surcharge up to a maximum of 100% of the applicable recommended rate. Subject to the approval of the WorkCover WA Board, an insurer may surcharge beyond 100% of the recommended rate. The maximum surcharge will be reduced to 75% from 1 July 2005 by the 2004 Workers Compensation Reform Act (2004 Reforms).

Following instructions from WorkCover WA we have made allowance in this year's premium rates for the impact of the 2004 Reforms, using the results of our 13 April 2005 report to the WorkCover WA Board entitled "Actuarial Assessment of Cost Impact of the 2004 Workers Compensation Reforms".

### 3 Objectives

The *objectives* of the actuarial assessment of the recommended rates are :

- to calculate the total amount of premium income required
- broad equity across industry classes
- minimal cross subsidy of rates, and
- relative stability in the rating structure.

A further objective is to assess the adequacy of insurers' outstanding claim reserves.

The actuarial assessment includes the calculation of the amount of premium income required to meet the projected cost of claims including expenses and margins with anticipated investment income. From 2001/02, recommended rates no longer make allowance for brokerage/commission costs. *This is the second year that the experience of the Western Australian Local Government Association (WALGA) has been excluded from the premium rating process.* As a consequence, the 2005/06 rate for Local Government Administration (81130) may not be appropriate, being based predominantly on historical data collected from private insurers and does not reflect the current experience of the Local Government self-insurance scheme. Users of the Gazette rates need to be aware of this.

### 4 Key findings

The *key findings* of the actuarial assessment are:

- recommended Gazette premium rates for 2005/06 should be increased by:
  - 2.9% for expected claims experience inclusive of the estimated impact of the 2004 Reforms
- this increase includes the following major influences:
  - 14.3% increase in the overall costs (including expenses and margins) for the estimated initial *prospective* impact of the 2004 Reforms. This equates to an 18.4% increase in the risk cost of claims. The *retrospective* impact of the 2004 Reforms is not allowed for
  - increasing election option lodgements to 31/01/2005 but reduced election option lodgements to 31/01/2004 due to retracted lodgements over the year to January 2005
  - reducing and below expected claims experience for 2003/04 and stable to increasing for the half-year to 31/12/2004. In particular claim numbers are increasing but claim payments remain below expected

- a release of reserves during 2003/04 on prior year claims on both our and insurers current estimates
- the increase in the estimated claim numbers incurred from 37,928 for 2003 to 38,593 for 2004 (both excluding WALGA). This 1.8% increase impacts on overall costs
- the assumption that claim numbers will increase by 4.7% in 2004/05, based on the number of 2004/05 claims reported to 31/12/2004
- an average claim size before 2004 Reforms of \$11,008 in inflated and discounted values (see section 3.1.1 of the full report) from our actuarial projection models (projected separately for statutory and common law costs). This increases to \$13,033 once the 18.4% estimated impact on the risk cost of claims from the 2004 Reforms is allowed for
- the 0.35% increase from 14.79% to 15.14% in total management expenses excluding brokerage leading to a 0.6% increase in the overall loading including contingency and interest
- reduction in superimposed inflation decreases costs by 7.2%
- a 16% decrease in common law numbers decreases costs by 3.7%
- an 8% decrease in the average common law claim size decreases costs by 2.1%
- a 0.7% increase in premium rates due to the decrease in the real market rates of interest used to obtain the present value of projected future claim payments
- a 11.0% increase in adjusted wages which is 5.5% more than the 5.5% wage inflation rate for 2003/04
- future wage inflation unchanged at 3.5%
- a tenth accident year's data is used for relative premium rates
- the combination of these assumptions imply an overall 2.9% real increase in premium rates.

## 5 Premium rating returns

The latest *premium rating returns* collected are for the 2003/2004 year. These are the *tenth* set of returns based on the ANZSIC industry classification and they are presented on the same basis as last year. The data validation process shows that data quality and efficiency of its collection has improved, however there are still some areas of inaccuracy and issues which need to be considered.

Data for the Government Insurance Fund and Municipal WorkCare was included for the first time in 1997/98. Beginning last year we have been instructed to remove all WALGA data from our analysis and pricing models.

Aggregate data for the half year to 31/12/2004 and unit claim election application data was supplied and used as an indicator of the Act amendment impact on costs.

A tenth accident year's data was added to the ANZSIC class Form WC11.

## 6 Relative premium rates by industry class

*Relative premium rates by industry class* were calculated using weighted average data over the ten year period ending 30/06/2004. A hierarchical credibility experience rating system is adopted as the basis of premium rating.

## 7 Actuarial projection methods

*Several actuarial projection methods* are used to estimate the incurred cost of claims. The final method was chosen after examining the results obtained and by forming a judgement as to which method or blend of methods to adopt.

The actuarial projection assists with both

- the examination of the adequacy of insurers' declared outstanding claim reserves, and
- the estimation of the expected incurred cost of claims.

The analysis of expenses and other margins combines with the estimated incurred cost to give a loss ratio, which leads to the calculation of the required premium income and the uniform percentage variation in relative premium rates. The resulting variation was -10.0% before allowing for the 2004 Reforms. When combined with the 14.3% estimated increase for the impact of the prospective element of the 2004 Reforms, the net impact on premium rates is:

$$= [ (1-0.1) \times 1.143 ] - 1 = 2.9\%$$

The brokerage component of expenses was removed from the loss ratio from the 2002 premium rates as a once-off adjustment.

The actuarial analyses and projections used to determine the recommended premium rates involve assumptions about uncertain future events, claims and economic, social and legislative conditions. Hence the actual outcome may well be different from the results shown. The level of uncertainty is increased this year due to the additional uncertainty surrounding the impact of the 2004 Reforms.

These uncertainties should be borne in mind whenever using the results in our actuarial reports on recommended premium rates and actuarial assessment of the cost impact of the 2004 Reforms.

## 8 Statistical trends

The *statistical trends* observed in the aggregate data up to 30/06/2004 are described below. For detail on the definition and source of these statistics see Attachment B of our current report on Recommended Premium Rates for 2005/06.

### 8.1 Claim numbers and sizes and estimated incurred costs

Accident year ending 30 June	Estimated number of claims incurred (a)	Average claim size in 30/6/2004 values (b)	Estimated inflated incurred cost of claims \$M (c)
2004	38,593	11,171	464.638
2003	37,928	10,515	411.920
2002	37,982	10,360	388.905
2001	42,791	9,486	381.977
2000	49,391	9,034	401.882
1999	54,425	8,252	380.776
1998	58,560	9,002	435.194
1997	59,925	9,040	427.615

Comments:

- the number of claims decreased by 2% in 1998, 7% in 1999, 9% in 2000, 13% in 2001, 11% in 2002, was stable in 2003 and increased 2% in 2003/04.
- average claim size has increased by 24% in real terms since 1996/97 or 3% pa
- inflated incurred cost increased by 9% (\$37M) between 1997 and 2004, ie from \$428M to \$465M in actual terms including GST and Act change allowance.

The table above does not include the cost impact of the 2004 Reforms.

## 8.2 Reserving and loss ratios exclusive of 2004 Reforms cost impact

Some overall market reserving and loss ratios which may assist insurers to judge the relative strength of their reserves are as follows:

Accident year ending 30 June	Cumulative claim payments \$M (a)	Total case estimates \$M (b)	Inflated actuarial incurred cost ests \$M (c)	Total case estimates to claim payments (d)	Ultimate incurred costs/claim payments (e)	Ultimate incurred costs/total case ests (f)	Loss ratios (g)
2004	86.354	284.947	464.638	330%	538%	163%	81%
2003	184.354	305.926	411.920	166%	223%	135%	70%
2002	237.463	306.467	388.905	129%	164%	127%	66%
2001	282.686	342.591	381.977	121%	135%	111%	61%
2000	322.397	356.530	401.882	111%	125%	113%	68%
1999	347.766	368.960	380.776	106%	109%	103%	83%
1998	391.579	415.899	435.194	106%	111%	105%	113%
1997	402.781	413.777	427.615	103%	106%	103%	115%

Notes :

- (a) cumulative actual claim payments
- (b) = (a) + insurer's case estimates outstanding
- (c) = (c) from previous table
- (d) = (b) / (a) x 100
- (e) = (c) / (a) x 100
- (f) = (c) / (b) x 100
- (g) = (c) in \$ / earned premium returned by insurers

By applying the ratios in columns (d), (e) and (f) above, insurers can obtain a measure of the strength of their own case estimates and total incurred claim cost, relative to overall market levels.

Since last year, the case reserving ratio (d) has remained stable for most accident years while the ultimate incurred cost ratio to payments (e) decreased for the three most recent accident years. The ultimate incurred cost ratio to total case estimates (f) is decreasing to stable for most years.

The inflated loss ratio (g) is a measure of the cost of claims to earned premium. The higher the loss ratio, the less profitable the portfolio of risks. The loss ratio estimates for 1999 to 2003 have improved since last year due to the continuing impact of reducing claim payments and the October 1999 Act changes, while the older years are relatively stable.

A target inflated loss ratio including all expense and profit loadings would be 86%. The table shows that 1997 to 1998 were very unprofitable as loss ratios far exceeded the 86% target level. The 1999 loss ratio is just below breakeven and the 2000 and 2001 loss ratios are profitable. The early estimates for 2002 to 2004 suggest profitable loss ratios of 66% to 81% which implies insurer premiums could turn out to be somewhat more profitable than the 8% contingency margin allowed. These early estimates should not be relied on because of the high uncertain projected outstanding portion. Around 81% of projected ultimate cost is still outstanding for 2003/04.

Also the retrospective aspects of the 2004 Reforms are expected to increase the loss ratios for the most recent years.

### 8.3 Case estimates, expenses and discount levels and margins

Financial year ending 30 June	Insurers' case estimates outstanding \$M	Total expense levels %	Discount level by insurers against Gazette	Implicit margin in Gazette rates
2004	575.386	18.7%	14.4%	0%
2003	554.349	18.0%	8.9%	0%
2002	570.865	16.0%	6.1%	0%
2001	654.578	15.6%	4.5%	0%
2000	662.187	14.2%	4.3%	0%
1999	738.777	16.7%	13.5%	0%
1998	601.366	19.0%	17.1%	10%
1997	511.320	19.3%	21.5%	16%
1996	483.789	18.7%		20%

Comments:

- outstanding case estimates increased by 4% in 2004
- total expense levels in 2004 increased to 18.7% from 18% last year (and increased by 0.3% excluding brokerage from 14.8% to 15.1%)
- insurer premium discounts to Gazette rates reduced significantly from 1997 to 2000 and then stabilised before significant increases in 2003 (8.9%) and 2004 (14.4%)
- a significant implicit margin in the Gazette rates was removed in 1998. The margin arose in 1994 on introduction of the industry based premium rating classes.

Other trends in the returned data are:

- a material decrease (22%) in incurred number of claims over past five years. However incurred claim numbers *increased* by 1.8% in 2003/04
- claim payments during 2003/2004 decreased by 7.5% in real values i.e. after allowing for wage inflation
- claim payments in the six months to 31 December 2004 increased by 9.5% in actual and 5.8% in real terms compared to the same period in the previous year
- major sources of claim payment increase is common law, legal, medical, and vocational rehabilitation, while schedule 1 and 2 redemptions decreased
- insurers case estimates on open claims have increased significantly since 30 June 2003. They are 13% higher at 31 December 2004

- stable active claim numbers in the range 31,000 to 32,500 up to 1999 and then declined rapidly to 21,000 at 30 June 2002. Active claims were stable in the current year, but increased 5% in the six months to 31 December 2004

## 9 Assumptions, observations and conclusions

The analysis of the experience and the trends translate into the following *assumptions, observations and conclusions*:

- a \$13,911 after 2004 Reforms (\$11,753 pre-2004 Reforms) average claim size in 30/06/2004 values which allows for past real growth in excess of wage inflation
- superimposed *inflation* in claim costs of:
  - 2.9% for both statutory benefits and common law
- a 1.06% common law claim frequency rate with a \$230,943 weighted average common law claim size excluding legal costs. After allowing for the 2004 Reforms this increases to an estimated 1.22% common law frequency with unchanged common law average claim size.

leading to

- a \$11,008 adopted average claim size for the 2005/06 underwriting year, in inflated and discounted values or \$13,033 after allowing for the estimated cost impact of the 2004 Reforms
- 38,593 incurred claims for 2003/2004 assumed to increase by 4.7% to 40,394 in 2005/06
- allowance is made for the current cost of claims
- 14.3% prospective overall cost impact (including expenses and margins) of the 2004 Reforms as per our actuarial assessment report
- the 0.35% increase in total expense levels excluding brokerage/commission
- the Gazette rates *do not* include the 10% GST on the premium itself
- market rates of interest as at 31 January 2005 are adopted
- future wage inflation remains unchanged at 3.5%, assumed after discussion with WorkCover WA

- an *adopted loss ratio of 77.9% excluding brokerage* in discounted terms, down from 78.2% last year, including
  - an expense loading of 15.14% of premium (14.79% last year), or 18.65% before removing brokerage (18.01% last year), and
  - an unchanged contingency margin of 8% of risk cost

The loss ratio increases to 80.7% after allowing for the estimated prospective overall cost impact of the 2004 Reforms as not all expenses are assumed to increase under the 2004 Reforms.

- the *total expense level* of insurers is 18.7% (18.0%), made up of 3.5% (3.2%) brokerage, 1.9% (1.9%) Statutory charges and 13.2% (12.9%) management expenses. The figures in brackets are from last year. Expense levels increase due to a small number of medium/large insurers.

The combination of these assumptions imply a 10.0% *real decrease in claim costs* before the estimated cost impact of the 2004 Reforms. When the 14.3% increase due to the prospective element of the 2004 Reforms is factored in, the result is an effective increase in costs of 2.9% (see 7 above)

Other aspects include:

- retain minimum and maximum premium rates
- the *minimum premium* for a policy increases to \$60 for householder policies and to \$180 for all other policies
- at 30 June 2004 *insurers reserves* are higher than the actuarially assessed reserve requirements by \$118M (9%), while last year they were \$8M or 0.7% lower. Around a third of the difference this year is in accident years older than 5 years and may be influenced by asbestos reserves
- average declared *insurer reserves* to claim payments is 362% (339% last year). Two current insurers have a ratio less than 290% and 4 had ratios greater than 360%
- declared *prudential margins* over net central estimates, in the range 9.0% to 29.8%, with an average prudential margin of 18.7% (18.7% last year).
- insurer *expense levels* vary between 12% and 31% of premiums, with an average of 18.7% (18.0% last year)

## 10 Communication of Outcomes

The analyses and calculations made highlight the following:

- recommended premium rates for the 2005/06 underwriting year increase by 2.9% in aggregate
- uncertainty exists about how robust a measure of ultimate incurred cost the recent claims experience combined with the estimated cost impact of the 2004 Reforms will be. The eventual outcome may well differ significantly (either up or down) from the projected level
- the claim costs in the half year to 31/12/2004 are slightly adverse compared to expected
- the 3.5% future wage inflation rate is retained and market rates of interest as at 31/01/2005 are adopted.