# DELAWARE COMPENSATION RATING BUREAU, INC. F CLASS FILING

## **ANALYSIS OF EXPERIENCE**

The following pages present an analysis of Delaware "F" class experience. The analysis is based on data reported to the Bureau under the Unit Statistical Plan.

<u>Reported Premium and Losses</u> - Pages 1 and 2 present reported standard earned premiums and incurred losses by policy year separately for indemnity (page 1) and medical (page 2). Losses are shown through 10th report which is the latest report currently available under the Unit Statistical Plan.

<u>Indicated Loss Development Factors</u> - Page 3 (indemnity) and page 4 (medical) show age-to-age development factors based on reported losses. An average based on all available data points was calculated and formed the basis for the factors ultimately selected. The process for calculation of selected loss development factors and a tail factor are shown on pages 5 and 6. Factors to ultimate are calculated by compounding the age-to-age and 10th-to-ultimate factors.

<u>Selected Loss Development Factors</u> - Pages 5 (indemnity) and page 6 (medical) show the derivation of selected age-to-age and 10th-to-ultimate development factors. The residuals of all years available average indicated age-to-age development factors from pages 3 and 4 were fitted to a curve of the form  $y = a * (1 + x) ^b$  for indemnity and y = a + b \* log (x) / x for medical. A value of 1.0000 was selected from  $9^{th}$  to  $10^{th}$  and  $10^{th}$  to 11th for medical to ensure a more reasonable shape for the final fitted curve. These factors became the "selected" values on pages 3 and 4.

Loss Ratios - Indemnity and medical ultimate loss ratios are calculated on page 7.

<u>Graphs</u> - Indemnity, medical and total ultimate loss ratio graphs for policy years 1994 through 2003 are shown on page 8.

<u>Trend Summary</u> - An analysis of loss ratio trend is summarized on page 9. Linear trend lines were used to project trended loss ratios for indemnity and medical using combinations of policy years ranging from four to ten points. Exponential curves were also considered but the lack of data points left the results meaningless. Three year average loss ratios, and 0% annual trend, were selected for both indemnity and medical losses. The resulting trended loss ratios are 46.40% for indemnity and 11.71% for medical.

## "F" CLASS UNIT STATISTICAL PLAN EXPERIENCE

## REPORTED STANDARD EARNED PREMIUM AND INDEMNITY INCURRED LOSSES

Policy	Standard Earned			Rep		ty Incurred Loss	es				
Year	Premium	1	2	3	4	5	6	7	8	9	10
90	35,614	0	0	0	0	0		0	0	0	0
91	78,613	0	0	0	0	0	0	0	0	0	0
92	56,087	95,532	127,989	150,623	150,624	132,476	132,476	132,476	132,476	132,476	132,476
93	62,218	0	0	0	0	0	0	0	0	0	0
94	165,218	0	0	0	0	0	0	0	0	0	0
95	180,644	79,814	622,787	622,787	83,681	83,681	83,681	83,681	83,681	83,681	
96	1,320,294	244,297	187,592	149,250	143,642	139,346	139,347	139,347	139,347		
97	889,932	157,409	165,047	150,694	150,694	150,695	150,695	150,695			
98	266,646	193,633	255,825	6,842	6,842	6,842	6,842				
99	122,888	255,451	0	0	0	0					
00	729,382	98,351	93,587	116,565	240,363						
01	1,682,660	348,057	348,057	378,299							
02	911,913	131,206	459,669								
03	364,405	79,831									

## "F" CLASS UNIT STATISTICAL PLAN EXPERIENCE

## REPORTED STANDARD EARNED PREMIUM AND MEDICAL INCURRED LOSSES

Policy	Standard Earned			Re		l Incurred Losse t Level	s				
Year	Premium	1	2	3	4	5	6	7	8	9	10
90	35,614	0	0	0	0	0	0	0	0	0	0
91	78,613	0	0	0	0	0	0	0	0	0	0
92	56,087	51,599	78,320	86,078	86,079	80,465	80,465	80,465	80,465	80,465	80,465
93	62,218	0	0	0	0	0	0	0	0	0	0
94	165,218	0	0	0	0	0	0	0	0	0	0
95	180,644	51,473	53,941	54,788	54,239	54,260	54,830	54,830	54,830	54,830	
96	1,320,294	101,206	96,782	88,831	98,433	92,113	92,113	92,113	92,113		
97	889,932	98,501	94,212	71,469	71,469	66,156	66,156	67,156			
98	266,646	94,774	86,408	16,256	10,112	10,112	10,112				
99	122,888	156,937	0	0	0	0					
00	729,382	35,653	36,434	42,765	36,948						
01	1,682,660	142,049	142,049	124,393							
02	911,913	100,036	154,749								
03	364,405	55,147									

#### "F" CLASS UNIT STATISTICAL PLAN EXPERIENCE

## INDEMNITY INCURRED LOSS DEVELOPMENT FACTORS

#### Age-to-Age Development Factors

Policy	Report									
Year	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	10 - ULT
90	*	*	*	*	*	*	*	*	*	
91	*	*	*	*	*	*	*	*	*	
92	***	1.1768	1.0000	0.8795	1.0000	1.0000	1.0000	1.0000	1.0000	
93	*	*	*	*	*	*	*	*	*	
94	*	*	*	*	*	*	*	*	*	
95	7.8030	1.0000	0.1344	1.0000	1.0000	1.0000	1.0000	1.0000		
96	0.7679	***	0.9624	0.9701	1.0000	1.0000	1.0000			
97	****	0.9130	1.0000	1.0000	1.0000	1.0000				
98	1.3212	***	1.0000	1.0000	1.0000					
99	***	*	*	*						
00	0.9516	1.2455	2.0621							
01	1.0000	1.0869								
02	3.5034									
3 Yr Average	1.8183	1.1662	1.5311	1.0000	1.0000	1.0000	1.0000			
Average (All available)	2.5579	1.0844	1.0265	0.9699	1.0000	1.0000	1.0000	1.0000	1.0000	
Selected (All available)	2.5579	1.0859	1.011	1.0022	1.0006	1.0002	1.0001	1.0000	1.0000	1.0000
			David		- 4- 11164-					
			Devel	opment Factor	s to Ultimate					
a.v	1-ULT	2-ULT	3-ULT	4-ULT	5-ULT	6-ULT	7-ULT	8-ULT	9-ULT	10-ULT
3 Yr Average										
Average (All available)	2.7615	1.0796	0.9956	0.9699	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Selected (All available)	2.8145	1.1003	1.0133	1.0023	1.0001	0.9995	0.9993	1.0000	1.0000	1.0000

<sup>\*</sup> No reported losses.

<sup>\*\*\*\*</sup> Loss development factor not used

#### "F" CLASS UNIT STATISTICAL PLAN EXPERIENCE

#### MEDICAL INCURRED LOSS DEVELOPMENT FACTORS

## Age-to-Age Development Factors

Policy	Report									
Year	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	10 - ULT
90	*	*	*	*	*	*	*	*	*	
91	*	*	*	*	*	*	*	*	*	
92	***	1.0991	1.0000	0.9348	1.0000	1.0000	1.0000	1.0000	1.0000	
93	*	*	*	*	*	*	*	*	*	
94	*	*	*	*	*	*	*	*	*	
95	1.0479	1.0157	0.9900	1.0004	1.0105	1.0000	1.0000	1.0000		
96	0.9563	***	1.1081	0.9358	1.0000	1.0000	1.0000			
97	****	0.7586	1.0000	0.9257	1.0000	1.0151				
98	0.9117	***	0.6220	1.0000	1.0000					
99	***	*	*	*						
00	1.0219	1.1738	0.8640							
01	1.0000	0.8757								
02	1.5469									
3 Yr Average	1.1896	1.0248	0.7430	0.9629	1.0000	1.0050	1.0000			
Average (All available)	1.0808	0.9846	0.9307	0.9593	1.0021	1.0038	1.0000	1.0000	1.0000	
Selected (All available)	1.0840	0.9709	0.9645	0.9709	0.9789	0.9865	0.9933	0.9992	1.0000	1.0000
			Develo	opment Factors	s to Ultimate					
	1-ULT	2-ULT	3-ULT	4-ULT	5-ULT	6-ULT	7-ULT	8-ULT	9-ULT	10-ULT
3 Yr Average		2 021	3 021	. 02.	0 021	0 021	, 021	3 021	3 021	
Average (All available)	0.9558	0.8843	0.8981	0.9650	1.0059	1.0038	1.0000	1.0000	1.0000	1.0000
Selected (All available)	0.9446	0.8714	0.8975	0.9306	0.9585	0.9791	0.9925	0.9992	1.0000	1.0000

<sup>\*</sup> No reported losses.

<sup>\*\*\*\*</sup> Loss development factor not used

# "F" CLASS UNIT STATISTICAL PLAN EXPERIENCE

# FITTED DEVELOPMENT FACTORS

# **INDEMNITY INCURRED LOSSES**

 $Y = a^{*}(1+x)^{b}$  a = 220.8891 b = (7.1476)

 $R ^2 = 0.9993$ 

Incurred Development	All Year Average	All Year Average - 1	Fitted Value	Fitted Value + 1	Selected
1st to 2nd	2.5579	1.5579	1.5579	2.5579	2.5579
2nd to 3rd	1.0844	0.0844	0.0859	1.0859	1.0859
3rd to 4th	1.0265	0.0265	0.0110	1.0110	1.0110
4th to 5th	0.9699	(0.0301)	0.0022	1.0022	1.0022
5th to 6th	1.0000	<u>-</u>	0.0006	1.0006	1.0006
6th to 7th	1.0000	-	0.0002	1.0002	1.0002
7th to 8th	1.0000	-	0.0001	1.0001	1.0001
8th to 9th	1.0000	-	-	1.0000	1.0000
9th to 10th	1.0000	-	-	1.0000	1.0000
10th to 11th	1.0000	-	-	1.0000	1.0000
10th to Ultimate					1.0000

# "F" CLASS UNIT STATISTICAL PLAN EXPERIENCE

# FITTED DEVELOPMENT FACTORS

# **MEDICAL INCURRED LOSSES**

Y = a+b\*log(x)/x a = 0.0840 b = (0.3266)

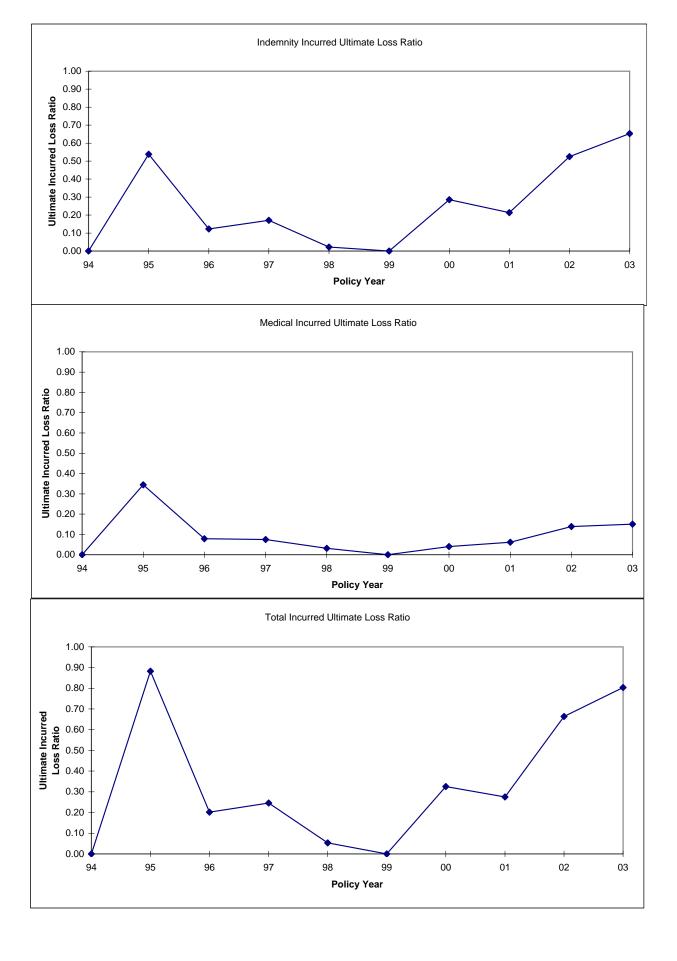
 $R ^2 = 0.7894$ 

Incurred Development	All Year Average	All Year Average - 1	Fitted Value	Fitted Value + 1	Selected
1st to 2nd	1.0808	0.0808	0.0840	1.0840	1.0840
2nd to 3rd	0.9846	(0.0154)	(0.0291)	0.9709	0.9709
3rd to 4th	0.9307	(0.0693)	(0.0355)	0.9645	0.9645
4th to 5th	0.9593	(0.0407)	(0.0291)	0.9709	0.9709
5th to 6th	1.0021	0.0021	(0.0211)	0.9789	0.9789
6th to 7th	1.0038	0.0038	(0.0135)	0.9865	0.9865
7th to 8th	1.0000	-	(0.0067)	0.9933	0.9933
8th to 9th	1.0000	-	(0.0008)	0.9992	0.9992
9th to 10th	1.0000	-	0.0043	1.0043	1.0000 *
10th to 11th	1.0000	-	0.0089	1.0089	1.0000 *
10th to Ultimate					1.0000 *

#### "F" CLASS UNIT STATISTICAL PLAN EXPERIENCE

#### **ULTIMATE LOSS RATIOS**

	Policy	Standard Earned	Premium On-Level	Adjusted	Reported Incurred	Report	Loss Development	Loss On-Level	Ultimate Incurred	Loss
	Year	Premium	Factor	Premium	Loss	Level	Factor	Factor	Loss	Ratio
		(1)	(2)	(3) = (1) * (2)	(4)	(5)	(6)	(7)	(8)=(4)*(6)*(7)	(9)=(8)/(3)
Indemnity	·									<del></del>
	1994	165,218	0.8813	145,607	0	10	1.0000	1.0266	0	0.0000
	1995	180,644	0.8813	159,202	83,681	9	1.0000	1.0244	85,723	0.5385
	1996	1,320,294	0.8813	1,163,575	139,347	8	0.9992	1.0225	142,368	0.1224
	1997	889,932	1.0031	892,691	150,695	7	0.9925	1.0197	152,511	0.1708
	1998	266,646	1.1789	314,349	6,842	6	0.9995	1.0169	6,954	0.0221
	1999	122,888	1.1789	144,873	0	5	1.0001	1.0145	0	0.0000
	2000	729,382	1.1714	854,398	240,363	4	1.0023	1.0117	243,735	0.2853
	2001	1,682,660	1.0757	1,810,037	378,299	3	1.0133	1.0096	387,010	0.2138
	2002	911,913	1.0639	970,184	459,669	2	1.1003	1.0075	509,567	0.5252
	2003	364,405	0.9492	345,893	79,831	1	2.8145	1.0052	225,853	0.6530
	10 Year Total	6,633,982		6,800,809	1,538,727				1,753,721	0.2579
	3 Year Average									0.4640
Medical										
	1994	165,218	0.8813	145,607	0	10	1.0000		0	0.0000
	1995	180,644	0.8813	159,202	54,830	9	1.0000		54,830	0.3444
	1996	1,320,294	0.8813	1,163,575	92,113	8	0.9992		92,039	0.0791
	1997	889,932	1.0031	892,691	67,156	7	0.9925		66,652	0.0747
	1998	266,646	1.1789	314,349	10,112	6	0.9791		9,901	0.0315
	1999	122,888	1.1789	144,873	0	5	0.9585		0	0.0000
	2000	729,382	1.1714	854,398	36,948	4	0.9306		34,384	0.0402
	2001	1,682,660	1.0757	1,810,037	124,393	3	0.8975		111,643	0.0617
	2002	911,913	1.0639	970,184	154,749	2	0.8714		134,848	0.1390
	2003	364,405	0.9492	345,893	55,147	1	0.9446		52,092	0.1506
	10 Year Total	6,633,982		6,800,809	595,448				556,389	0.0818
	3 Year Average									0.1171
Total	4004	405.040	0.0040	445.007	0	10				0.0000
	1994	165,218	0.8813	145,607	0	10			0	0.0000
	1995	180,644	0.8813	159,202	138,511	9			140,553	0.8829
	1996	1,320,294	0.8813	1,163,575	231,460	8			234,407	0.2015
	1997	889,932	1.0031	892,691	217,851	7			219,163	0.2455
	1998	266,646	1.1789	314,349	16,954 0	6			16,855 0	0.0536
	1999	122,888	1.1789	144,873		5				0.0000
	2000 2001	729,382	1.1714	854,398	277,311	4 3			278,119 498,653	0.3255 0.2755
		1,682,660	1.0757	1,810,037	502,692	2				
	2002 2003	911,913 364,405	1.0639 0.9492	970,184 345,893	614,418 134,978	1			644,415 277,945	0.6642 0.8036
	10 Year Total	6,633,982		6,800,809	2,134,175				2,310,110	0.3397
	3 Year Average	, ,		, , , ==					, , ,	0.5811



	_	3 points	4 points	5 points	6 points	7 points	8 points	9 points	10 points
INDEMNITY									
LINEAR	Average Loss Ratio	0.4640	0.4193	0.3355	0.2832	0.2672	0.2491	0.2812	0.2531
LIVE/ WY	Trended Loss Ratio Trend Factor Annual. Trend Factor	1.3241 2.8537 1.1939	1.0441 2.4901 1.1410	1.0955 3.2653 1.1612	1.0042 3.5459 1.1525	0.8307 3.1089 1.1212	0.7339 2.9462 1.1040	0.5136 1.8265	0.5481 2.1655 1.0616
EXPONENTIAL	R^2	0.9450	0.7939	0.8961	0.8896	0.7067	0.6348	1.0519 0.1498	0.2494
EXT ONEITHINE	Trended Loss Ratio	3.7270	1.6944	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
MEDICAL									
LINEAR	Average Loss Ratio	0.1171	0.0979	0.0783	0.0705	0.0711	0.0721	0.1024	0.0921
	Trended Loss Ratio Trend Factor Annual. Trend Factor R^2	0.2912 2.4868 1.1665 0.8460	0.2783 2.8427 1.1631 0.9163	0.2750 3.5121 1.1720 0.9541	0.2305 3.2695 1.1421 0.8214	0.1777 2.4993 1.0968 0.4882	0.1449 2.0097 1.0660 0.2895	0.0317 0.3096 0.9063 0.0740	0.0784 0.8512 0.9876 0.0030
TOTAL									
LINEAR	Average Loss Ratio	0.5811	0.5172	0.4138	0.3537	0.3383	0.3212	0.3836	0.3452
EXPONENTIAL	Trended Loss Ratio	1.6153	1.3224	1.3705	1.2347	1.0084	0.8788	0.5453	0.6265
LAFONENTIAL	Trended Loss Ratio	4.3521	2.3937	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!