

**TRANSACTIONS OF SOCIETY OF ACTUARIES  
1949 REPORTS**

**1949 REPORT OF THE COMMITTEE ON GROUP MORTALITY  
AND MORBIDITY**

**SECTION I—GROUP LIFE INSURANCE**

**T**HIS report adds the experience of the calendar year 1948 under group life insurance policies to that previously reported in T.A.S.A. XLIX 477 and covers the period 1946–1948. The experience is analyzed by type of policy, disability provision and industry. The analysis by type of policy separates the experience as follows:

Type 0—Cases with 50 or more lives and cases with fewer than 50 lives which had 50 lives or more at issue.

Type 3—Cases with fewer than 50 lives at issue, which remain in that class.

Trusteeship and Association cases insuring employees of member employers of the trusteeship or association and union cases where insurance depends on continued employment are excluded. The attempt made in the previous report to investigate experience of certain categories of such cases has been discontinued for the time being because of the difficulty in making a satisfactory classification of such cases.

The experience under each of the three common disability provisions is shown separately. Following is a description of these provisions:

- (i) The Waiver of Premium Disability Clause, in general, provides for waiver of premium on receipt of proof of permanent total disability in the event that disability occurs before age 60. Total disability is presumed to be permanent after it has continued for nine months and proof of continued total disability is required annually.

The total actual claims for the Waiver of Premium data have been computed by adding to the death claims 75% of the number of approved disability claims. Although there are some indications in the study by the committee described in Section II of this report that a factor somewhat less than 75% may be more in accord with current experience, the factor in this report was maintained on a basis consistent with previous reports because of the smallness and newness of that experience.

- (ii) The Extended Death Benefit Clause provides for payment of the full face amount, in general, upon death occurring within one year after termination of employment and prior to age 65 (or 60) if the employee was disabled at the time of termination of employment and continued disabled until death.
- (iii) The Total and Permanent Disability Clause provides, upon an em-

ployee's disability prior to age 60, for payment of the face amount of insurance—in some instances in one sum, in others in installments over a short period, usually 60 months. This clause was discontinued by most companies in the early '30s and is not currently offered generally by many companies. The experience contained in this report therefore represents primarily older policies issued prior to 1932, under which the clause was retained, with the addition of such newer business as has been issued containing the Total and Permanent Disability clause more recently. Hence, the results of this study should be viewed in the light of the selective factors influencing this experience.

TABLE I  
*Type 0 and Type 3 Experience Combined*

Type of Disability Clause	Year	Years Exposed	Total Actual Claims	Accident Claims	Disability Claims	Expected Claims AM (5)	Ratio A/E
							%
Waiver of Premium	1946	1,585,198	10,452	833	731	17,729.5	59.0
	1947	1,837,869	11,615	970	745	19,988.3	58.1
	1948	2,328,059	14,724	1,217	1,026	25,155.6	58.5
	Total...	5,751,126	36,791	3,020	2,502	62,873.4	58.5
Extended Death Benefit	1946	1,385,788	10,555	901	—	16,547.6	63.8
	1947	2,569,819	20,118	1,899	—	30,491.3	66.0
	1948	3,017,791	22,546	1,960	—	35,493.5	64.5
	Total...	6,973,398	53,219	4,760	—	82,532.4	63.5
Total and Permanent Disability	1946	2,440,388	19,553	1,284	2,687	27,976.2	69.9
	1947	3,512,520	28,074	2,008	3,607	40,228.9	69.8
	1948	3,912,756	30,415	1,994	3,689	44,857.1	67.8
	Total...	9,865,664	78,042	5,286	9,983	113,062.2	69.0
Grand Total		22,590,188	168,052	13,066	12,485	258,468.0	65.0

The aggregate experience under each disability provision is shown in Table I by calendar year. Type 0 experience for 1946–48 and Type 3 experience for 1947–48 is included. The expected claims have been computed on the basis of the American Men Ultimate Table of Mortality.

The analysis by industry based upon Cammack's industry codes appears in Table II. In Table III, the experience is shown by quinquennial age groups for five broad industry classes as follows:

	Industry Class	Industry Codes
Class I	Mining	10-23
Class II	Iron, Steel and other Metal Industries, Lead Industry and Construction	40-68, 100
Class III	Transportation and Public Service	310-342
Class IV	Clerical	360
Class V	All Others	1-4, 30, 70-88, 110-300, 361-376

The experience for the calendar year 1948 does not appear separately in Tables II and III, which show only the experience for the years 1946-48 combined, but may be obtained with the assistance of the previous report.

The following companies contributed experience to this study: Aetna Life Insurance Company, Connecticut General Life Insurance Company, Equitable Life Assurance Society, John Hancock Life Insurance Company, Metropolitan Life Insurance Company, Prudential Insurance Company of America, Sun Life Assurance Company of Canada, and The Travelers Insurance Company.

**TABLE II**  
*Experience of 1946-1948 Combined*  
 Type 0—Cases with 50 or more lives and cases with fewer than 50 lives which had 50 lives or more at issue

Industry Code No.	Industry	Waiver of Premium					Extended Death Benefit				Total & Permanent Disability				
		Years Exposed	Total* Actual Claims	Ratio A/E	No. of Claims		Years Exposed	Total Actual Claims	Ratio A/E	No. of Cl. Accid. Death	Years Exposed	Total Actual Claims	Ratio A/E	No. of Claims	
					Accid.	Dis.								Accid.	Dis.
1	<i>Agriculture</i> Florists and Nurserymen	7750	71.50	65.5	4	2	3850	27	55.7	5	4049	36	46.0	2	4
2	Fruit Growing	1122	5.00	41.3	2		7938	53	57.2	4	687	6	—	1	1
3	Stock Ranging and Ranching	544	2.00	—	1		61		—		875	7	—		2
4	General Farming and all other Agriculture	11336	89.50	61.4	11	2	1629	11	52.4	1	2383	29	73.6	1	2
Total		20752	168.00	61.2	18	4	13478	91	55.8	10	7994	78	55.3	4	9
10	<i>Mining</i> Coal-Bituminous (Surface Mining)	3965	30.00	65.9	10		1091	9	67.7	1	974	9	—		2
11	Coal-Bituminous (Underground Mining)	15303	179.75	90.8	32	17	51661	432	71.2	84	8791	130	90.5	25	24
12	Coal-Anthracite	9706	119.50	92.9	16	18	8087	98	87.4	14	1089	10	60.6		3
13	Iron (Surface Mining Only)	219	1.00	—	1		1258	11	74.8	5	18044	235	82.2	20	21
14	Iron (Underground Mining)	1711	15.25	87.6	4	3	14773	143	72.6	29	543	6	—	1	
15	Copper (Surface Mining Only)	21601	220.00	83.1	31	28	62070	847	81.6	60	14613	218	91.2	11	21
16	Copper (Underground Mining)	1153	13.25	93.3	3	3	8540	70	86.0	21	5479	52	87.1	6	12
17	Lead & Zinc Mines (Surface Mining Only)	188	1.00	—			4289	36	79.5	6					

18	Lead & Zinc Mines (Underground Mining)	603	9.75	—	5	1	10423	81	65.3	12	1484	28	119.7	7	4
19	Other Metal Mines (Surface Mining Only)	296	1.00	—	1		323	3	—		3997	36	89.3	3	
20	Other Metal Mines (Incl. Surface & Underground)	6708	69.50	87.6	10	18	6599	33	54.6	11	4572	50	109.9	4	10
21	Salt Production	1143	12.00	80.0	1		1031	11	91.7	2	6875	102	90.3	5	9
22	Minerals (Clay, Shale, Talc, Phosphate, Feldspar, etc.)	2259	24.25	96.2	7	3	1517	20	98.5	2	17517	193	96.4	28	23
23	Quarries (Slate, Stone and Marble)	4163	33.50	60.4	5	2	7801	90	87.0	10	12192	157	91.5	21	18
Total .....		69018	729.75	85.1	126	93	179063	1884	77.5	257	96170	1226	90.0	131	147
30	<i>Oil</i> Mineral Oil Prod., Refining & Distribution	170142	1258.50	64.2	121	74	422336	2574	60.6	327	287435	2504	74.4	199	480
40	<i>Construction</i> Construction (Steel—Incl. Steel Bridges)	2598	26.00	97.4	4		3252	25	69.8	2	13266	114	64.3	9	17
41	Construction (Wood, Brick and Stone)	16413	103.75	64.4	12	5	5100	47	71.4	16	4357	44	68.5	2	1
42	Shipbuilding (Iron and Steel)	36960	375.50	80.1	21	54	19203	185	76.7	12	6718	64	79.6	4	7
43	Shipbuilding (Wood)	1752	10.00	47.6	2		892	7	—		411	9	—		3
44	Road Construction (Incl. Sewers, Bridges, etc.)	7219	61.50	64.1	6	6	14769	153	88.9	17	4242	67	89.5	3	6
Total .....		64942	576.75	74.6	45	65	43216	417	78.8	47	28994	298	73.7	18	34

\* Number of Death Claims plus three-fourths of number of Disability Claims.

TABLE II—Continued

Industry Code No.	Industry	Waiver of Premium					Extended Death Benefit				Total & Permanent Disability				
		Years Exposed	Total* Actual Claims	Ratio A/E	No. of Claims		Years Exposed	Total Actual Claims	Ratio A/E	No. of Cl. Accid. Death	Years Exposed	Total Actual Claims	Ratio A/E	No. of Claims	
					Accid.	Dis.								Accid.	Dis.
60	<i>Iron and steel and other metal industries (except lead)</i> Steel Works (with or without Rolling Mills)	114688	911.50	67.5	88	38	534229	4250	71.3	579	163311	1653	85.1	166	211
61	Steel and Iron Foundries	95259	776.00	71.7	83	36	70336	703	76.8	40	85482	881	79.3	68	113
62	Steel Rolling	4210	30.00	69.8	2		4840	35	64.6	4	18160	173	76.5	15	8
63	Tube, Rod and Pipe Mills	10661	80.25	66.2	2	3	99438	681	64.7	94	27565	256	69.9	14	15
64	Malleable Iron Works	9118	113.50	85.3	6	10	16016	136	71.6	21	19574	218	79.1	12	18
65	Wire Drawing and Wire Products	23941	154.75	63.6	9	17	36670	168	51.3	16	67022	720	78.0	34	73
66	Smelting (Electric Process) & Refining	4289	33.50	86.8	2	6	21154	135	66.0	18	22050	227	72.9	19	23
67	Other Smelting and Refining	46249	208.50	53.6	18	6	3253	26	74.5	5	53073	498	90.4	39	184
68	Non-ferrous Metal Foundries	13570	124.00	79.1	11	8	10639	79	68.5	12	32533	230	70.6	20	32
Total .....		321985	2432.00	68.4	221	124	796575	6213	70.2	789	488770	4856	80.5	387	677
79	<i>Metal products</i> Airplane Manufacturing	90674	400.00	59.0	35	84	75523	285	43.8	32	80693	377	54.8	26	68
80	Automobiles & Agriculture Implements	43141	300.50	61.7	19	18	204864	1649	70.3	132	327129	2392	73.3	168	449
81	Car and Railroad Shops	53966	532.25	68.4	50	19	35895	348	69.1	22	8854	142	85.4	9	10
82	Sheet Metal Products (Stamping & Pressing)	70944	493.25	63.5	44	15	100301	622	58.8	47	144270	1086	65.9	78	91

83	Steel Fabrication (Excluding Erecting)	16404	107.25	58.4	12	7	12332	83	57.7	11	28588	309	82.6	20	42
84	Drop Forging	8610	62.00	61.4	4	4	13389	91	64.1	9	19217	140	66.1	5	16
85	Heavy Machinery & Other Metal Prod.	225856	1559.25	58.8	126	79	278890	2298	65.8	167	425092	3659	68.8	228	255
86	Light Metal Products (Tools, Hardware, etc.)	440638	2644.00	58.0	209	228	321638	2218	62.4	153	1067134	7285	65.8	459	690
87	Light Mach. & Instruments of Precision	297043	1545.50	54.3	107	114	186476	1178	57.5	81	278134	1709	61.1	90	174
88	Boiler Making (Heavy Tanks, etc.)	12201	94.75	66.5	6	5	29913	183	61.7	27	18514	185	73.9	12	24
Total .....		1259477	7738.75	58.6	612	573	1259521	8955	62.9	681	2397625	17284	67.0	1095	1819
100	<i>Lead industry</i> Mfg. White & Red Lead— Foundry Work & Mfg. Lead Supplies Incl. Batteries	694	2.75	—	1	1	20357	213	83.9	18	28019	242	70.6	16	30
<i>Chemical and allied industries</i>															
110	Fertilizer Production	5836	44.00	59.9	3	4	10694	87	73.1	12	7742	124	84.4	11	18
111	Paint & Varnish Factories	13936	112.25	66.1	11	3	16223	125	65.9	8	36895	313	72.1	21	37
112	Aniline Dyes (Coal Tar Dyes)	107		—			4215	37	67.3	1	2247	23	88.1	2	2
113	Explosives	5032	44.75	79.3	6	9	10309	57	61.0	11	181508	1187	63.7	102	178
114	Soap, Tallow & Glue	4221	28.00	56.8	1		17414	92	53.4	8	27254	213	72.4	10	36
115	Heavy Acids (Sulphuric, Nitric, Hydrofluoric, etc.)	738	3.00	—	1		1146	10	102.0	4	8915	97	99.1	2	15
116	Light Acids (Acetic, Citric, etc.)	3363	17.25	61.2	2	3	935	10	—		516	7	109.4		
117	General Chemical Manufacturing	177013	1078.50	60.4	148	122	69412	474	62.9	45	225497	1500	73.2	246	261
Total .....		210246	1327.75	61.2	172	141	130348	892	63.5	89	490574	3464	70.4	394	547

\* Number of Death Claims plus three-fourths of number of Disability Claims.

TABLE II—Continued

Industry Code No.	Industry	Waiver of Premium					Extended Death Benefit				Total & Permanent Disability				
		Years Exposed	Total* Actual Claims	Ratio A/E	No. of Claims		Years Exposed	Total Actual Claims	Ratio A/E	No. of Cl. Accid. Death	Years Exposed	Total Actual Claims	Ratio A/E	No. of Claims	
					Accid.	Dis.								Accid.	Dis.
130	<i>Clay, glass and stone Brick, Tile, Terra Cotta and Pottery</i>	34679	232.75	59.9	34	13	46339	110	73.0	40	43895	358	67.3	33	27
131	Glass Factories (Excl. Polished Plate Glass)	35104	231.75	56.1	16	17	22445	141	54.0	8	152379	1035	70.2	79	233
132	Polished Plate Glass	469	3.00	73.2			980	7	—		19959	172	71.4	15	11
133	Lime, Cement and Gypsum	14210	76.25	49.0	11	3	23713	229	70.4	39	22375	235	69.5	26	20
134	Marble and Stone Yards	2291	10.50	46.5		2	499	3	—		2420	25	84.5	2	6
Total		86753	554.25	56.3	61	35	93476	790	67.6	87	241028	1825	69.8	155	297
160	<i>Clothing industries Hat Factories (Felt)</i>	11671	92.00	55.8	3	4	1702	12	55.6		17479	187	67.7	7	8
161	Furriers	3225	25.00	64.9		4	1027		—		1840	39	103.7		2
162	All other Clothing	156358	587.25	38.0	37	31	80921	299	39.6	21	52008	354	54.7	23	56
Total		171254	704.25	40.3	40	39	83650	311	39.5	21	71327	580	60.3	30	66
180	<i>Food and kindred industries Dairy Products</i>	33036	162.75	48.5	9	9	87550	549	52.3	27	175277	1194	64.8	78	135
181	Flour & Grain Mills and Elevators	17273	110.75	54.5	12	5	8733	64	57.9	7	49127	409	68.5	34	56
182	Canneries (Fish)	1274	16.50	90.2		2	315	4	—		1150	10	55.6	1	
183	Canneries (Meat, Fruit and Vegetables)	21009	152.75	52.8	9	9	12340	75	50.9	9	30882	232	63.5	19	26
184	Slaughter & Packing Houses & Stock Yards	16348	131.00	71.6	16	4	21650	133	60.7	21	270351	2651	82.0	168	479
185	Sugar Factories & Refineries	3246	32.00	60.3	1		17664	231	80.9	18	16632	198	78.9	8	11



186	Manufacturing & Bot- tling Beverages	13602	71.50	60.2	9	6	10328	70	77.2	3	32038	166	61.5	17	15
187	Cereals, Prepared Food & All other Foods	109477	607.75	53.5	44	49	88211	534	56.3	42	347919	2702	69.8	170	375
191	Beer & Other Malt Bev.—Mfg. & Bottling	50028	460.50	75.8	26	22	32507	316	77.0	16	11380	95	78.7	3	3
192	Wines—Mfg. & Bottling	1278	9.75	61.3	2	1	823	14	—	1					
193	Distilled Liquors—Mfg. & Bottling	12180	72.75	63.9	6	1	26047	158	69.1	20	4796	38	77.9	4	3
194	Wholesale Dealers in Alcoholic Beverages	7602	61.00	78.1	3		2325	9	43.9	2	816	2	26.7		
195	Retail Dealers in Alco- holic Beverages	164	1.00	—											
Total .....		286517	1890.00	59.9	137	108	308193	2157	61.2	166	940368	7697	72.4	502	1103
<i>Leather industries (excl. artificial leather)</i>															
200	Heavy Leather Goods	8077	68.00	58.3	4	4	4986	37	55.0	1	9931	117	77.6	3	8
201	Shoes & Other Light Leather Goods	88516	481.75	51.4	31	33	212699	1034	49.2	86	30253	246	61.9	14	23
202	Tanneries	28594	290.75	70.6	21	17	18066	173	67.3	14	21001	268	74.3	13	24
Total .....		125187	840.50	57.3	56	54	235751	1244	51.3	101	61185	631	69.4	30	55
<i>Lumber and furniture</i>															
220	Woodsmen & Loggers	6621	48.75	57.6	7	1	19760	109	44.4	25	1197	17	72.0	2	4
221	Lumber Yds. & Saw & Planing Mills	70895	476.75	54.0	60	17	52437	428	60.5	60	58143	608	73.1	60	68
222	Furniture & Woodwork- ing (Carriages & Mus- ical Instruments)	108889	720.75	54.0	56	37	122235	885	59.3	89	123360	1155	67.3	69	113
Total .....		186405	1246.25	54.1	123	55	194432	1422	58.1	174	182700	1780	69.2	131	185
<i>Paper and pulp manufacturing</i>															
240	Paper & Ground Wood Pulp Mills	67283	519.75	63.7	55	37	64619	430	58.7	55	238023	2054	71.1	173	356
241	Sulphide Soda Pulp Mills	1733	6.00	46.5	2		573	6	—		12146	142	63.0	12	12

\* Number of Death Claims plus three-fourths of number of Disability Claims.

TABLE II—Continued

Industry Code No.	Industry	Waiver of Premium					Extended Death Benefit				Total & Permanent Disability				
		Years Exposed	Total* Actual Claims	Ratio A/E	No. of Claims		Years Exposed	Total Actual Claims	Ratio A/E	No. of Cl. Accid. Death	Years Exposed	Total Actual Claims	Ratio A/E	No. of Claims	
					Accid.	Dis.								Accid.	Dis.
	<i>Paper and pulp manufacturing—(Cont.)</i>														
242	Paper Boxes	48740	259.75	53.2	20	5	36195	205	54.6	17	70662	466	65.4	41	50
243	All other Paper Manufacturing	56866	350.75	55.9	26	13	46600	324	61.3	31	99905	693	63.3	67	81
Total.....		174622	1136.25	58.4	103	55	147987	965	58.7	103	420736	3355	68.2	293	499
260	<i>Printing</i> Printing, Bookbinding and Publishing	127120	933.75	62.7	48	33	102243	814	65.9	40	264886	2295	67.7	116	142
	<i>Textile industries</i>														
270	Bleaching, Dyeing, Printing & Finishing	43103	318.75	60.2	19	17	36860	228	59.3	30	24219	261	72.6	12	10
271	Hemp, Jute, Rope and Cordage	13640	117.75	67.8	6	5	12500	101	65.8	4	47002	460	78.6	25	75
272	All Other Textiles (Wool, Silk etc.)	503318	2829.00	49.3	197	172	352643	748	49.8	150	321510	2107	60.1	107	295
Total.....		560061	3265.50	50.7	222	194	402003	2077	51.3	184	392731	2828	63.5	144	380
	<i>Miscellaneous industries</i>														
289	Plastic Products	25337	122.50	55.8	9	6	6083	31	55.8	3	2602	18	60.2	1	1
290	Artificial Leather (Using Pyroxylin)	404	6.00	—	1		2167	24	97.2	2					
291	Cigars & Tobacco	56388	298.00	58.5	29	52	22258	157	60.9	9	60289	467	85.0	17	176
292	Elec. Cables & Supplies (Not Falling Under Industry Code No. 100)	85131	334.25	50.1	26	55	27760	127	50.8	12	169514	1206	65.2	73	75

293	Rubber	268361	1544.25	61.0	132	143	33156	166	56.1	15	79134	547	62.4	45	36
294	Brooms & Brushes	7225	35.50	49.2	3	2	1512	11	45.5	1	8907	70	65.7	4	12
295	Buttons (Excluding Metal, Rubber and Composition)	1607	12.50	57.9		2	2399	19	68.8	1	1178	7	39.8	1	
296	Celluloid & Celluloid Articles (Pyroxylin Composition)	2880	18.00	55.0			1666	21	92.5	1	14500	60	51.4	6	5
297	Drugs (Sundries, Incl. Perfumes, Chewing Gum, etc.)	37363	203.75	55.8	13	25	48707	279	57.5	15	82712	509	62.3	31	81
298	Cotton Seed Oil Production (& Other Vegetable Oil Production)	4175	29.75	52.8	4	1	6538	39	48.3	2	2503	30	78.3	2	3
299	Ice (Mfg., Harvesting and Distributing)	5228	42.50	64.7	3	2	1996	23	89.1	4	7372	105	85.2	4	12
300	Miscellaneous	106176	743.75	61.7	73	37	84176	596	63.0	83	92409	905	74.2	58	94
Total.....		600275	3390.75	59.0	293	325	238418	1493	59.8	148	521120	3924	68.3	242	495
310	<i>Transportation and public service</i> City Employees (Incl. Employees of More than One Class)	28245	374.50	74.3	21	30	23170	286	79.4	24	41287	550	82.3	40	77
320	Elec. & Street Railways (Population of City 500,000 or More)	3190	44.00	71.9	1		65971	864	84.6	44	72832	1234	95.0	45	185
321	Elec. & Street Railways (Population of City 250,000 to 500,000)	680	3.75	—		1	16641	257	79.0	21	16465	260	80.1	6	51
322	Elec. & Street Railways (Smaller Towns & Interurban)	4106	55.00	78.0	5		3988	43	78.6	3	22682	302	79.7	18	35
323	Airplane Transportation	34083	102.50	53.7	37	10	21310	41	36.2	11	88643	259	53.5	102	30
325	Auto Sales and Service Stations	44484	193.50	51.5	15	6	72031	468	61.4	50	20633	133	66.7	13	15
326	Taxicabs and Buses	68729	488.50	74.3	46	18	28016	221	78.1	16	83794	469	73.4	42	97

\* Number of Death Claims plus three-fourths of number of Disability Claims.

TABLE II—Continued

Industry Code No.	Industry	Waiver of Premium					Extended Death Benefit				Total & Permanent Disability				
		Years Exposed	Total* Actual Claims	Ratio A/E	No. of Claims		Years Exposed	Total Actual Claims	Ratio A/E	No. of Cl. Accid. Death	Years Exposed	Total Actual Claims	Ratio A/E	No. of Claims	
					Accid.	Dis.								Accid.	Dis.
	<i>Transportation and public service—(Cont.)</i>														
327	Truck, Transfer, etc.	46554	254.50	68.7	42	14	38593	254	72.1	39	30389	199	76.3	24	19
330	Water Trans. (Employees on Vessels Other Than River Navigation)	5706	61.25	80.6		7	4055	38	95.5	4	8736	110	87.2	6	10
331	Water Trans. (Harbor and Dock Employees & Emps. on Vessels on Rivers)	4527	60.75	90.4	10	1	4694	72	100.0	7	7408	108	92.4	26	3
334	Steam Railroads	17721	369.25	84.8	18	11	578339	8830	79.1	653	43407	979	93.9	47	159
335	Express Companies	893	7.00	—	2		125937	567	51.6	53	5109	33	67.6	5	
336	Telegraph	91204	541.75	59.0	22	89					11017	106	88.6	4	32
337	Telephone	3015	18.50	60.7	3	2	23161	92	48.2	7	31034	164	55.2	11	32
338	Subway & Elevated Railroads						15255	221	86.2	14	3130	51	108.5	2	12
339	Police	1931	26.00	104.4	2		4198	42	82.5	3	6121	68	103.3	5	19
340	Firemen	33	—	—			1440	31	104.4	2	3685	65	114.0	5	7
341	Gas Works	11213	81.75	64.8	13	1	5930	50	66.4	4	54594	601	73.6	31	51
342	Electric Light and Power	36665	267.50	68.5	55	10	127448	1224	72.9	136	465019	5075	77.4	337	640
Total	.....	402979	2950.00	68.4	292	200	1160177	13601	75.9	1091	1015985	10766	79.5	769	1474
	<i>Clerical and professional</i>														
360	Clerical (Banks, Insurance, etc., and other Office Forces)	247912	1428.75	55.1	63	117	400052	2618	60.0	140	739012	5126	59.0	195	497
361	Medical (Nurses, Sanitaria, Hospitals, etc.)	16507	97.75	44.5	8	9	24891	180	53.2	15	25441	180	54.4	11	27

362	Theatrical Conference of Method- ist Ministers & Sim- ilar Organizations	21100	169.75	72.3	15	13	28060	208	63.9	9	71896	743	84.8	36	115
363		20845	152.00	56.4	11		9258	99	49.9	3	13744	197	64.4	11	24
Total.....		306364	1848.25	55.7	97	139	462261	3105	59.4	167	850093	6248	61.3	253	663
370	<i>Trade and service</i> Wholesale Merchants and Dealers	96553	657.25	62.9	49	31	102816	677	56.0	34	142999	1307	68.3	61	131
371	Retail Merchants & Dealers	313160	1727.50	46.6	93	94	426382	2122	48.2	142	809911	3664	51.8	260	663
372	Warehouses & Cold Storage Plants	14210	108.25	68.7	12	3	7670	73	69.3	6	15153	184	79.6	9	11
373	Hotels and Restaurants	93552	766.00	59.5	33	28	73879	676	69.1	40	66171	615	66.4	28	38
374	Laundries (including Dry Cleaning)	22320	112.00	50.3	10	8	19931	103	46.1	4	18729	153	62.2	7	23
375	Coal Delivery	3602	37.00	83.0	3		3788	42	72.3	1	5792	66	69.5	5	3
376	Operation & Mainte- nance of Office and Apartment Buildings	10713	114.50	66.0	4	14	9626	71	53.5	6	7667	89	60.1	2	9
Total.....		554110	3522.50	53.1	204	178	644092	3764	53.0	233	1066422	6078	57.2	372	878
Grand total.....		5698903	36516.50	58.6	2992	2490	6938077	52982	64.5	4733	9854162	77957	69.0	5281	9980

\* Number of Death Claims plus three-fourths of number of Disability Claims.

**TABLE III**  
*Experience of 1946-1948 Combined*  
 Type O—Cases with 50 or more lives and cases with fewer than 50 lives which had 50 lives or more at issue

Central Age	Waiver of Premium					Extended Death Benefit				Total & Permanent Disability				
	Years Exposed	Total* Actual Claims	Ratio A/E	No. of Claims		Years Exposed	Total Actual Claims	Ratio A/E	No. of Claims Acc.	Years Exposed	Total Actual Claims	Ratio A/E	No. of Claims	
				Acc.	Dis.								Acc.	Dis.
<b>Class I—Mining</b>														
18	1318	4.00	88.9	4		4044	14	95.9	13	1917	4	57.1	2	
23	4987	16.00	77.3	12		13747	31	54.4	23	6617	25	91.2	13	5
28	6641	17.75	60.6	11	1	19348	41	48.2	27	9332	24	58.7	9	2
33	9228	31.50	74.3	15	6	24065	55	50.1	33	11863	38	70.2	18	12
38	9139	35.00	73.5	13	4	23668	61	49.3	26	12091	42	66.2	10	4
43	9009	53.50	87.8	16	6	21600	100	68.8	34	12211	95	114.9	19	20
48	8054	71.25	92.7	7	19	18657	130	72.8	23	11105	126	118.9	12	19
53	7352	115.25	109.6	16	23	17985	221	86.0	25	10436	168	112.8	16	45
58	6168	146.50	108.9	19	34	14717	261	81.3	15	8657	186	98.4	10	40
63	4168	112.00	80.4	9		10880	301	82.7	19	5975	161	80.6	7	
68	1908	60.00	61.0	4		5691	241	82.4	7	3335	140	81.8	9	
73	764	45.00	—			2881	204	90.5	2	1643	107	83.2	3	
78	228	17.00	—			1195	139	98.2	5	687	61	—	2	
83	41	2.00	—			478	62	—	3	229	36	—		
88	12	2.00	—			91	20	—	1	61	10	—	1	
93	1	1.00	—			14	3	—	1	11	3	—		
98						2		—						
<b>Total.....</b>	<b>69018</b>	<b>729.75</b>	<b>85.1</b>	<b>126</b>	<b>93</b>	<b>179063</b>	<b>1884</b>	<b>77.5</b>	<b>257</b>	<b>96170</b>	<b>1226</b>	<b>90.0</b>	<b>131</b>	<b>147</b>
<b>Class II—Iron, Steel and other Metal Industries, Lead Industry and Construction</b>														
18	8722	11.50	36.5	7	2	16497	26	43.0	19	12474	23	50.2	13	1
23	37330	53.75	34.6	22	9	77860	141	43.6	83	47442	67	34.0	38	4
28	50033	71.75	32.5	24	9	101794	175	39.0	97	63593	103	36.8	44	15
33	57282	101.00	38.7	26	12	118301	234	43.4	99	76061	157	45.2	44	27
38	52347	141.00	51.4	23	16	109620	326	56.9	84	70762	256	69.2	46	54
43	45523	238.50	77.7	27	18	101041	476	69.8	82	65032	339	77.3	31	74

48	38865	334.50	89.9	32	34	93819	728	81.1	88	58845	504	89.5	53	117
53	35812	451.75	88.3	29	41	93802	1077	80.4	93	54004	781	101.2	38	181
58	28203	539.75	87.8	24	49	76121	1302	78.4	84	43533	973	102.5	41	268
63	19472	489.00	75.0	21		49723	1256	75.4	71	28624	727	75.8	36	
68	9106	313.00	66.9	18		14064	535	74.1	19	14630	623	83.0	9	
73	3500	154.00	56.2	10		5203	329	80.8	24	6764	407	76.9	14	
78	1082	77.00	60.2	4		1774	151	71.9	8	2788	252	76.2	9	
83	292	22.00	—			438	64	—	3	981	138	—	4	
88	47	13.00	—			81	20	—		229	37	—	1	
93	4	—	—			10	3	—		20	9	—		
98	1	—	—					—		1	—	—		
Total.....	387621	3011.50	69.4	267	190	860148	6843	71.0	854	545783	5396	79.6	421	741
Class III—Transportation and Public Service														
18	13210	17.25	35.5	12	3	20458	23	30.7	13	22709	23	27.6	15	1
23	44313	56.00	30.4	18	8	74377	104	33.6	56	85296	118	33.2	64	15
28	49097	84.25	39.0	46	3	100946	173	38.9	93	112587	213	42.9	98	34
33	50276	101.25	44.2	33	11	122246	237	42.5	89	123457	286	50.8	94	54
38	53725	173.25	61.7	46	11	128247	365	54.4	113	133779	421	60.2	71	79
43	52752	251.75	70.6	27	29	145730	665	67.6	111	139085	699	74.5	96	138
48	46552	331.00	74.3	26	40	151036	1096	75.8	114	119616	987	86.2	72	230
53	35810	425.25	83.2	21	47	136794	1653	84.6	110	96330	1450	105.4	49	377
58	26185	482.00	84.4	19	48	116286	2047	80.7	110	73437	1700	106.2	60	546
63	17275	419.00	72.4	20		83736	2322	82.8	133	50885	1324	77.7	43	
68	9209	334.00	70.7	10		44514	1724	75.4	61	29846	1183	77.2	33	
73	3440	176.00	65.4	9		20839	1301	79.8	35	16691	1068	81.7	27	
78	940	68.00	—	4		9712	1016	88.2	25	8828	743	70.9	22	
83	163	20.00	—	1		3977	591	83.0	17	2687	379	78.9	14	
88	26	9.00	—			1116	227	75.8	8	655	145	—	10	
93	4	2.00	—			142	48	—	3	93	26	—	1	
98	2	—	—			21	9	—		4	1	—		
Total.....	402979	2950.00	68.4	292	200	1160177	13601	75.9	1091	1015985	10766	79.5	769	1474

\* Number of Death Claims plus three-fourths of number of Disability Claims.

TABLE III—Continued

Central Age	Waiver of Premium					Extended Death Benefit				Total & Permanent Disability				
	Years Exposed	Total* Actual Claims	Ratio A/E	No. of Claims		Years Exposed	Total Actual Claims	Ratio A/E	No. of Claims Acc.	Years Exposed	Total Actual Claims	Ratio A/E	No. of Claims	
				Acc.	Dis.								Acc.	Dis.
Class IV—Clerical														
18	16096	9.75	16.5	4	1	24193	11	12.4	5	51692	26	13.7	9	5
23	32423	22.00	16.3	6	8	49742	30	14.5	13	101756	77	18.2	19	18
28	27913	31.00	25.2	9	4	39938	37	21.0	11	77676	56	16.3	5	11
33	27709	37.00	29.3	3	8	40961	51	27.3	10	73088	93	27.9	13	21
38	32297	71.75	42.5	6	13	52287	103	37.7	7	91066	180	37.8	18	33
43	31732	110.00	51.4	5	16	53766	175	48.2	12	90680	299	48.8	14	45
48	25327	163.00	67.2	11	16	46548	278	62.4	23	77662	449	60.4	22	65
53	21051	214.00	71.2	5	24	36777	405	77.1	14	62761	700	78.1	23	122
58	15302	217.25	65.1	6	27	25634	393	70.3	16	47423	806	77.9	24	177
63	9886	240.00	72.5	4		16075	413	76.7	15	31611	680	64.2	10	
68	5039	138.00	53.3	2		8390	320	74.3	8	17529	587	65.2	13	
73	2191	95.00	55.4	1		3762	189	64.2	3	9630	521	69.1	6	
78	722	50.00	—	1		1419	124	73.6	1	4503	375	70.2	9	
83	189	20.00	—			463	64	—	1	1549	190	68.5	5	
88	33	8.00	—			88	20	—	1	344	75	—	5	
93	2	2.00	—			9	5	—		41	11	—		
98										1	1	—		
Total.....	247912	1428.75	55.1	63	117	400052	2618	60.0	140	739012	5126	59.0	195	497
Class V—All Others														
18	209635	213.25	27.7	100	27	186281	187	27.4	111	308930	390	34.4	193	71
23	523097	586.50	27.0	229	86	465293	527	27.2	250	823814	1015	29.6	362	202
28	584308	740.50	28.7	230	110	530426	595	25.4	255	943314	1320	31.7	341	302
33	609113	1007.00	36.3	254	136	581315	869	32.8	241	1025660	1833	39.2	434	371
38	592134	1469.25	47.4	245	151	577643	1381	45.7	271	1002268	2668	50.9	398	525
43	533488	2002.00	55.6	191	204	525289	1929	54.4	241	897210	3896	64.3	357	768
48	457687	2896.25	66.1	192	299	446011	2672	62.6	207	753686	5713	79.2	353	1153
53	393118	3954.50	70.4	203	410	379028	3835	70.9	216	630503	7463	82.9	289	1562



58	308209	4618.25	68.7	212	467	292248	4479	70.3	204	476584	9228	88.8	345	2167
63	207747	4344.00	62.4	163		193570	4328	66.8	158	310344	6986	67.2	242	
68	109681	3295.00	58.5	109		100070	3348	65.2	111	162302	5807	69.7	182	
73	45085	1948.00	55.2	73		42299	2139	64.6	64	77400	4262	70.4	109	
78	14390	912.00	53.4	34		14604	1148	66.2	43	32156	2856	74.9	99	
83	3177	303.00	53.2	8		3807	441	64.7	15	10218	1375	75.2	41	
88	458	99.00	—	1		644	130	—	4	2545	541	79.2	16	
93	43	7.00	—			100	24	—		264	80	—	3	
98	3	1.00	—			9	4	—		14	10	—	1	
Total.....	4591373	28396.50	56.5	2244	1890	4338637	28036	58.7	2391	7457212	55443	67.2	3765	7121

## All Classes Combined

18	248981	255.75	28.0	127	33	251473	261	28.3	161	397722	466	31.9	232	78
23	642150	734.25	27.5	287	111	681019	833	29.4	425	1064925	1302	29.4	496	244
28	717992	945.25	29.9	320	127	792452	1021	29.2	483	1206502	1716	32.3	497	364
33	753608	1277.75	37.2	331	173	886888	1446	35.8	472	1310129	2407	40.3	603	485
38	739642	1890.25	48.9	333	195	891465	2236	47.9	501	1309966	3567	52.1	543	695
43	672504	2655.75	58.5	266	273	847426	3345	58.5	480	1204218	5328	65.5	517	1045
48	576485	3796.00	68.8	268	408	756071	4904	67.8	455	1020914	7779	79.6	512	1584
53	493143	5160.75	73.3	274	545	664386	7191	75.8	458	854034	10562	86.6	415	2287
58	384067	6003.75	71.7	280	625	525006	8482	74.1	429	649634	12893	91.0	480	3198
63	258548	5604.00	64.7	217		353984	8620	72.7	396	427439	9878	69.0	338	
68	134943	4140.00	59.7	143		172729	6168	69.6	206	227642	8340	71.4	246	
73	54980	2418.00	56.2	93		74984	4162	70.9	128	112128	6365	72.5	159	
78	17362	1124.00	54.6	43		28704	2578	75.7	82	48962	4287	73.8	141	
83	3862	367.00	52.9	9		9163	1222	74.5	39	15664	2118	75.5	64	
88	576	131.00	—	1		2020	417	76.8	14	3834	808	78.5	33	
93	54	12.00	—			275	83	—	4	429	129	—	4	
98	6	1.00	—			32	13	—		20	12	—	1	
Total.....	5698903	36516.50	58.6	2992	2490	6938077	52982	64.5	4733	9854162	77957	69.0	5281	9980

\* Number of Death Claims plus three-fourths of number of Disability Claims.

**TABLE III—Continued**  
*Experience of 1947-1948 Combined*  
 Type 3—Cases with fewer than 50 lives at issue, which remain in that class

Central age	Waiver of Premium					Extended Death Benefit				Total & Permanent Disability				
	Years Exposed	Total* Actual Claims	Ratio A/E	No. of Claims		Years Exposed	Total Actual Claims	Ratio A/E	No. of Claims Acc.	Years Exposed	Total Actual Claims	Ratio A/E	No. of Claims	
				Acc.	Dis.								Acc.	Dis.
All Classes Combined														
18	2523	3.00	38.0	1		1468	2	45.5	1	546		—		
23	6405	6.75	26.1	3	1	3738	7	49.3	2	1007	1	29.4		
28	7376	13.75	43.1	8	1	4576	4	20.6	2	1077	1	26.3	1	
33	7314	17.00	52.5	5		4800	4	19.0	2	1194	2	39.2		
38	6707	18.75	54.3	6	1	4771	12	51.5	6	1414	5	74.6	1	
43	6205	8.75	21.4	1	1	4321	19	67.9	1	1377	1	12.2		
48	5015	33.25	70.0	1	3	3511	28	85.4	3	1207	8	76.9	1	
53	4136	48.00	80.9	1		3060	40	92.0	3	1126	10	61.3		1
58	2962	42.75	66.6		5	2307	41	82.2	3	1000	12	55.6		2
63	1952	32.00	49.2	1		1486	39	78.3	2	797	17	—	1	
68	1046	22.00	39.3	1		798	19	—	1	435	13	—		
73	441	17.00	—			356	15	—		226	5	—		
78	124	9.00	—			100	3	—	1	72	6	—		
83	14	1.00	—			28	4	—		21	3	—	1	
88	3	1.00	—					—		3		—		
93						1					1	—		
<b>Total</b> .....	<b>52223</b>	<b>274.00</b>	<b>52.9</b>	<b>28</b>	<b>12</b>	<b>35321</b>	<b>937</b>	<b>63.2</b>	<b>27</b>	<b>11502</b>	<b>85</b>	<b>53.6</b>	<b>5</b>	<b>3</b>

\* Number of Death Claims plus three-fourths of number of Disability Claims