



ARKANSAS INSURANCE DEPARTMENT

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MINIMUM

NONFORFEITURE STANDARDS FOR MEN AND WOMEN INSURED

UNDER 1980 CSO AND 1980 CET MORTALITY TABLES

RULE AND REGULATION (40)

EFFECTIVE DATE

September 1, 1988

Section

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Section 1. Purpose

The purpose of the Regulation is to permit individual life insurance policies to provide the same cash surrender values and paid-up nonforfeiture benefits to both men and women. No change in minimum valuation standards is implied by this Rule.

Section 2. Authority

This Rule is promulgated by the Commissioner of Insurance pursuant to Ark. Code Ann. Sections 23-61-108, 23-84-101 through 23-84-111 and 23-81-209.

Section 3. Definitions

A. As used in this Regulation, "1980 CSO Table, with or without Ten-Year Select Mortality Factors" means that mortality table, consisting of separate rates of mortality for male and female lives, developed by the Society of Actuaries Committee to Recommend New Mortality Tables for Valuation of Standard Individual Ordinary Life Insurance, incorporated in the 1980 NAIC Amendments to the Model Standard Valuation Law and Standard Nonforfeiture Law for Life Insurance, and referred to in those models as the Commissioners 1980 Standard Ordinary Mortality Table, with or without Ten-Year Select Mortality Factors.

B. As used in this Regulation, "1980 CSO Table (M), with or without Ten-Year Select Mortality Factors" means that mortality table consisting of the rates of mortality for male lives from the 1980 CSO Table, with or without Ten-Year Select Mortality Factors.

C. As used in this Regulation, "1980 CSO Table (F), with or without Ten-Year Select Mortality Factors" means that mortality table consisting of the rates of mortality for female lives from the 1980 CSO Table, with or without Ten-Year Select Mortality Factor.

D. As used in this Regulation, "1980 CET Table" means that mortality table consisting of separate rates of mortality for male and female lives, developed by the Society of Actuaries Committee to Recommend New Mortality Tables for Valuation of Standard Individual Ordinary Life Insurance, incorporated in the 1980 NAIC Amendments to the Model Standard Individual Ordinary Life Insurance, incorporated in the 1980 NAIC Amendments to the Model Standard Valuation Law and Standard Nonforfeiture Law for Life Insurance, and referred to in those models as the Commissioners 1980 Extended Term Insurance Table.

E. As used in this Regulation, "1980 CET Table (M)" means that mortality table consisting of the rates of mortality for male lives from the 1980 CET Table.

F. As used in this Regulation, "1980 CET Table (F)" means that mortality table consisting of the rates of mortality for female lives from the 1980 CET Table.

G. As used in this Rule, "1980 CSO and CET Smoker and Nonsmoker Mortality Tables" means the mortality tables with separate rates of mortality for smokers and nonsmokers derived from the 1980 CSO and 1980 CET Mortality Tables by the Society of Actuaries Task Force on Smoker/Nonsmoker Mortality and adopted by the NAIC in December 1983.

Section 4. Rule

For any policy of insurance on the life of either a male or female insured delivered or issued for delivery in this State and after the operative date of Section 66-3327 (5.3) (10) for that policy form,

- (1) a mortality table which is a blend of the 1980 CSO Table (M) and the 1980 CSO Table (F) with or without Ten-Year Select Mortality Factors may at the option of the company be substituted for the 1980 CSO Table, with or without Ten-Year Select Mortality Factors, and
- (ii) a mortality table which is of the same blend as used in (i) but applied to form a blend of the 1980 CET Table (M) and the 1980 CET Table (F) may at the option of the company be substituted for the 1980 CET Table.

for use in determining minimum cash surrender values and amounts of paid-up nonforfeiture benefits.

The following tables will be considered as the basis for acceptable tables:

- A. 100% Male 1% Female for tables to be designated as the "1980 CSO-A" and "1980 CET-A" tables.
- B. 80% Male 20% Female for tables to be designated as the "1980 CSO-B" and "1980 CET-B" tables.

- C. 60% Male 40% Female for tables to be designated as the "1980 CSO-C" and "1980 CET-C" tables.
- D. 50% Male 50% Female for tables to be designated as the "1980 CSO-D" and "1980 CET-D" tables.
- E. 40% Male 60% Female for tables to be designated as the "1980 CSO-E" and "1980 CET-E" tables.
- F. 20% Male and 80% Female for tables to be designated as the "1980 CSO-F" and "1980 CET-F" tables.
- G. 0% male 100% Female for tables to be designated as the "1980 CSO-G" and "1980 CET-G" tables.

Tables A and G are not to be used with respect to policies issued on or after January 1, 1985, except where the proportion of persons insured is anticipated to be 90% or more of one sex or the other or except for certain policies converted from group insurance. Such group conversions issued on or after January 1, 1986 must use Mortality Tables based on the blend of lives by sex expected for such policies if such group conversions are considered as extensions of the Norris decision. This consideration has not been clearly defined by court or legislative action in all jurisdictions. The values of 1000qx for blended Tables B,C,D,E, and F are shown in Appendix I. The letter in Appendix II states the method by which selection factors may be obtained. Table A is the same as 1980 CSO Table (M) and 1980 CET Table (M) and Table G is the same as 1980 CSO Table (F) and 1980 CET Table (F).

Section 4A. Alternate Rule

In determining minimum cash surrender values and amounts of paid-up nonforfeiture benefits for any policy of insurance on the life of either a male or female insured on a form of insurance with separate rates for smokers and nonsmokers delivered or issued for delivery in this state after operative date of Section 23-81-213 for that policy form, in addition to the mortality tables that may be used according to Section 4:

- (i) a mortality table which is a blend of the male and female rates of mortality according to the 1980 CSO Smoker Mortality Table, in the case of lives classified as smokers, or the 1980 CSO Nonsmoker Mortality Table, in the case of lives classified as nonsmokers, with or without ten-year Select Mortality Factors, may at the option of the company be substituted for the 1980 CSO Table, with or without Ten-Year Select Mortality Factors, and
- (ii) a mortality table which is of the same blend as used in (i) but applied to form a blend of the male and female rates of mortality according to the corresponding 1980 CET Smoker Mortality Table or 1980 CET Nonsmoker Mortality Table may at the option of the company be substituted for the 1980 CET Table.

The following blended mortality tables will be considered acceptable:

SA: 100% Male 0% Female smoker tables designated as "1980 CSO-SA" and "1980 CET-SA" Tables.

SB: 80% Male 20% Female smoker tables designated as "1980 CSO-SB" and "1980 CET-SB" Tables.

SC: 60% Male 40% Female smoker tables designated as "1980 CSO-SC" and "1980 CET-SC" Tables.

SD: 50% Male 50% Female smoker tables designated as "1980 CSO-SD" and "1980 CET-SD" Tables.

SE: 40% Male 60% Female smoker tables designated as "1980 CSO-SE" and "1980 CET-SE" Tables.

SF: 20% Male 80% Female smoker tables designated as "1980 CSO-SF" and "1980 CET-SF" Tables.

SG: 0% Male 100% Female smoker tables designated as "1980 CSO-SG" and "1980 CET-SG" Tables.

NA: 100% Male 0% Female nonsmoker tables designated as "1980 CSO-NA" and "1980 CET-NA" Tables.

NB: 80% Male 20% Female nonsmoker tables designated as "1980 CSO-NB" and "1980 CET-NB" Tables.

NC: 60% Male 40% Female nonsmoker tables designated as "1980 CSO-NC" and "1980 CET-NC" Tables.

ND: 50% Male 50% Female nonsmoker tables designated as "1980 CSO-ND" and "1980 CET-ND" Tables.

NE: 40% Male 60% Female nonsmoker tables designated as "1980 CSO-NE" and "1980 CET-NE" Tables.

NF: 20% Male 80% Female nonsmoker tables designated as "1980 CSO-NF" and "1980 CET-NF" Tables.

NG: 0% Male 100% Female nonsmoker tables designated as "1980 CSO-NG" and "1980 CET-NG" Tables.

Tables SA, SG, NA and NG are not acceptable as blended tables unless the proportion of persons insured is anticipated to be 90% or more of one sex or the other.

Section 5. Unfair Discrimination

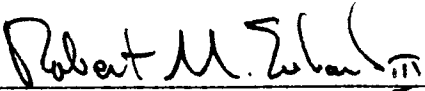
It shall not be a violation of Title 23, Chapter 66 of the Arkansas Insurance Code for an insurer to issue the same kind of policy of life insurance on both a sex-distinct and sex-neutral basis.

Section 6. Severability

If any provision of this Rule or the application thereof to any person or circumstance is for any reason held to be invalid, the remainder of the Regulation and the application of such provision to other persons or circumstances shall not be affected thereby.

Section 7. Effective Date

The effective date of this Regulation is September 1, 1988.



Robert M. Eubanks, III
Insurance Commissioner

APPENDIX I

TABLE B

BLENDED 1980 CSD & 1980 CET MORTALITY TABLES

BLENDED 1980 CSD TABLE						BLENDED 1980 CET TABLE					
AGE	LX	10000X	AGE	LX	10000X	AGE	LX	10000X	AGE	LX	10000X
0	136260	3.92	50	122860	6.36	0	2437508	5.10	50	2104361	8.27
1	135726	1.04	51	122079	6.90	1	2425077	1.79	51	2086958	8.97
2	135585	.95	52	121237	7.50	2	2420736	1.70	52	2068238	9.75
3	135456	.94	53	120328	8.19	3	2416621	1.69	53	2048073	10.65
4	135329	.91	54	119343	8.96	4	2412537	1.66	54	2026261	11.65
5	135206	.87	55	118274	9.78	5	2408532	1.62	55	2002655	12.71
6	135088	.83	56	117117	10.67	6	2404630	1.58	56	1977201	13.87
7	134976	.79	57	115867	11.58	7	2400831	1.54	57	1949777	15.05
8	134869	.75	58	114525	12.54	8	2397134	1.50	58	1920433	16.30
9	134768	.73	59	113089	13.57	9	2393538	1.48	59	1889130	17.64
10	134670	.72	60	111554	14.72	10	2389996	1.47	60	1855806	19.14
11	134573	.75	61	109912	16.00	11	2386483	1.50	61	1820286	20.80
12	134472	.83	62	108153	17.47	12	2382903	1.58	62	1782424	22.71
13	134360	.94	63	106264	19.16	13	2379138	1.69	63	1741945	24.91
14	134234	1.08	64	104228	21.05	14	2375117	1.83	64	1698553	27.37
15	134089	1.24	65	102034	23.11	15	2370771	1.99	65	1652064	30.04
16	133923	1.39	66	99676	25.29	16	2366053	2.14	66	1602436	32.88
17	133737	1.53	67	97155	27.61	17	2360990	2.28	67	1549748	35.89
18	133532	1.62	68	94473	30.03	18	2355607	2.37	68	1494128	39.04
19	133316	1.69	69	91636	32.66	19	2350024	2.44	69	1435797	42.46
20	133091	1.74	70	88643	35.59	20	2344290	2.49	70	1374833	46.27
21	132859	1.75	71	85488	38.95	21	2338453	2.50	71	1311219	50.64
22	132626	1.73	72	82158	42.84	22	2332607	2.48	72	1244819	55.89
23	132397	1.71	73	78638	47.33	23	2326822	2.46	73	1175495	61.53
24	132171	1.69	74	74916	52.37	24	2321098	2.44	74	1103167	68.08
25	131948	1.65	75	70993	57.84	25	2315435	2.40	75	1028063	75.19
26	131730	1.63	76	66887	63.65	26	2309878	2.38	76	950763	82.75
27	131515	1.61	77	62630	69.70	27	2304380	2.36	77	872087	90.61
28	131303	1.61	78	58265	75.95	28	2298942	2.36	78	793067	98.74
29	131092	1.63	79	53840	82.57	29	2293516	2.38	79	714760	107.34
30	130878	1.65	80	49394	89.83	30	2288057	2.40	80	638038	116.78
31	130662	1.70	81	44957	97.94	31	2282566	2.45	81	563528	127.32
32	130440	1.75	82	40554	107.18	32	2276974	2.50	82	491780	139.33
33	130212	1.83	83	36207	117.65	33	2271282	2.58	83	423260	152.95
34	129974	1.91	84	31947	129.10	34	2265422	2.66	84	358522	167.83
35	129726	2.02	85	27823	141.38	35	2259396	2.77	85	298351	183.79
36	129464	2.14	86	23889	154.17	36	2253137	2.89	86	243517	200.42
37	129187	2.30	87	20206	167.49	37	2246625	3.05	87	194711	217.74
38	128890	2.47	88	16822	181.24	38	2239773	3.22	88	152315	235.61
39	128572	2.68	89	13773	195.54	39	2232561	3.48	89	116428	254.20
40	128227	2.90	90	11080	210.53	40	2224792	3.77	90	86832	273.69
41	127855	3.16	91	8747	226.51	41	2216405	4.11	91	63067	294.46
42	127451	3.42	92	6766	244.43	42	2207296	4.45	92	44496	317.37
43	127015	3.72	93	5114	264.04	43	2197474	4.84	93	30374	343.25
44	126543	4.01	94	3764	289.36	44	2186838	5.21	94	19948	376.17
45	126036	4.35	95	2675	324.89	45	2175445	5.66	95	12444	422.36
46	125488	4.70	96	1806	360.97	46	2163132	6.11	96	7188	495.26
47	124898	5.07	97	1118	477.69	47	2149915	6.59	97	3628	621.00
48	124265	5.45	98	584	657.38	48	2135747	7.09	98	1375	854.59
49	123588	5.89	99	200	1000.00	49	2120605	7.66	99	200	1000.00

TABLE C

BLENDED 1980 CSD & 1980 CET MORTALITY TABLES

BLENDED 1980 CSD TABLE						BLENDED 1980 CET TABLE					
AGE	LX	1000DX	AGE	LX	1000DX	AGE	LX	1000DX	AGE	LX	1000DX
0	107405	3.67	50	97377	6.01	0	1760557	4.77	50	1529496	7.81
1	107011	.99	51	96792	6.50	1	1752159	1.74	51	1517551	8.45
2	106905	.93	52	96163	7.05	2	1749110	1.68	52	1504728	9.17
3	106806	.90	53	95485	7.68	3	1746171	1.65	53	1490930	9.98
4	106710	.88	54	94752	8.37	4	1743290	1.63	54	1476051	10.88
5	106616	.84	55	93959	9.11	5	1740448	1.59	55	1459992	11.84
6	106526	.81	56	93103	9.88	6	1737681	1.56	56	1442706	12.84
7	106440	.77	57	92183	10.68	7	1734970	1.52	57	1424182	13.88
8	106358	.73	58	91198	11.50	8	1732333	1.48	58	1404414	14.95
9	106280	.73	59	90149	12.39	9	1729769	1.48	59	1383418	16.11
10	106202	.71	60	89032	13.37	10	1727209	1.46	60	1361131	17.38
11	106127	.74	61	87842	14.48	11	1724687	1.49	61	1337475	18.82
12	106048	.80	62	86570	15.79	12	1722117	1.55	62	1312304	20.53
13	105963	.89	63	85203	17.30	13	1719448	1.64	63	1285362	22.49
14	105869	1.01	64	83729	19.01	14	1716628	1.76	64	1256454	24.71
15	105762	1.14	65	82137	20.88	15	1713607	1.89	65	1225407	27.14
16	105641	1.27	66	80422	22.84	16	1710368	2.02	66	1192149	29.69
17	105507	1.38	67	78585	24.90	17	1706913	2.13	67	1156754	32.37
18	105361	1.47	68	76628	27.04	18	1703277	2.22	68	1119310	35.15
19	105206	1.52	69	74556	29.32	19	1699496	2.27	69	1079966	38.12
20	105046	1.56	70	72370	31.92	20	1695638	2.31	70	1038798	41.50
21	104882	1.58	71	70060	34.90	21	1691721	2.33	71	995688	45.37
22	104716	1.58	72	67615	38.38	22	1687779	2.33	72	950514	49.89
23	104551	1.56	73	65070	42.48	23	1683846	2.31	73	903093	55.22
24	104388	1.55	74	62258	47.11	24	1679956	2.30	74	853224	61.24
25	104226	1.53	75	59325	52.16	25	1676092	2.28	75	800973	67.81
26	104067	1.52	76	56231	57.58	26	1672271	2.27	76	746659	74.85
27	103909	1.51	77	52993	63.24	27	1668475	2.26	77	690772	82.21
28	103752	1.53	78	49642	69.13	28	1664704	2.28	78	633984	89.87
29	103593	1.54	79	46210	75.41	29	1660908	2.29	79	577008	98.03
30	103433	1.58	80	42725	82.34	30	1657105	2.33	80	520444	107.04
31	103270	1.63	81	39207	90.17	31	1653244	2.38	81	464736	117.22
32	103102	1.67	82	35672	99.12	32	1649309	2.42	82	410260	128.86
33	102930	1.75	83	32136	109.33	33	1645318	2.50	83	357394	142.13
34	102750	1.83	84	28623	120.58	34	1641205	2.58	84	306598	156.75
35	102562	1.93	85	25172	132.68	35	1636971	2.68	85	258539	172.48
36	102364	2.04	86	21832	145.47	36	1632584	2.79	86	213946	189.11
37	102155	2.20	87	18656	158.84	37	1628029	2.95	87	173487	206.49
38	101930	2.36	88	15693	172.87	38	1623226	3.11	88	137664	224.73
39	101689	2.56	89	12980	187.54	39	1618178	3.33	89	106727	243.80
40	101429	2.78	90	10546	203.08	40	1612789	3.61	90	80707	264.00
41	101147	3.03	91	8404	219.76	41	1606967	3.94	91	59400	285.69
42	100841	3.29	92	6557	238.20	42	1600636	4.28	92	42430	309.66
43	100509	3.56	93	4995	259.26	43	1593785	4.63	93	29291	337.04
44	100151	3.84	94	3700	285.17	44	1586406	4.99	94	19419	370.72
45	99766	4.15	95	2645	322.03	45	1578490	5.40	95	12220	418.64
46	99352	4.47	96	1793	378.56	46	1569968	5.81	96	7104	492.13
47	98908	4.81	97	1114	476.70	47	1560844	6.25	97	3608	619.71
48	98432	5.17	98	583	657.10	48	1551089	6.72	98	1572	854.23
49	97923	5.58	99	200	1000.00	49	1540666	7.25	99	200	1000.00

TABLE D

BLENDED 1980 CSD & 1980 CET MORTALITY TABLES

BLENDED 1980 CSD TABLE						BLENDED 1980 CET TABLE					
AGE	LX	1000DX	AGE	LX	1000DX	AGE	LX	1000DX	AGE	LX	1000DX
0	96981	3.54	50	88170	5.83	0	1528592	4.60	50	1332106	7.58
1	96638	.97	51	87656	6.30	1	1521560	1.72	51	1322009	8.19
2	96544	.91	52	87104	6.82	2	1518943	1.66	52	1311182	8.87
3	96456	.89	53	86510	7.42	3	1516422	1.64	53	1299552	9.65
4	96370	.85	54	85868	8.07	4	1513935	1.60	54	1287011	10.49
5	96288	.83	55	85175	8.77	5	1511513	1.58	55	1273510	11.40
6	96208	.79	56	84428	9.50	6	1509125	1.54	56	1258992	12.35
7	96132	.77	57	83626	10.23	7	1506801	1.52	57	1243442	13.30
8	96058	.73	58	82771	10.99	8	1504511	1.48	58	1226905	14.29
9	95988	.72	59	81861	11.81	9	1502284	1.47	59	1209373	15.35
10	95919	.71	60	80894	12.71	10	1500076	1.46	60	1190809	16.52
11	95851	.72	61	79866	13.75	11	1497886	1.47	61	1171137	17.88
12	95782	.78	62	78768	14.96	12	1495684	1.53	62	1150197	19.45
13	95707	.87	63	77590	16.39	13	1493396	1.62	63	1127826	21.31
14	95624	.97	64	76318	18.02	14	1490977	1.72	64	1103792	23.43
15	95531	1.10	65	74943	19.78	15	1488413	1.85	65	1077930	25.71
16	95426	1.21	66	73461	21.64	16	1485659	1.96	66	1050216	28.13
17	95311	1.31	67	71871	23.59	17	1482747	2.06	67	1020673	30.67
18	95186	1.39	68	70176	25.58	18	1479693	2.14	68	989369	33.25
19	95054	1.44	69	68381	27.73	19	1476526	2.19	69	956472	36.05
20	94917	1.48	70	66485	30.16	20	1473292	2.23	70	921991	39.21
21	94777	1.49	71	64480	32.96	21	1470007	2.24	71	885840	42.85
22	94636	1.50	72	62355	36.29	22	1466714	2.25	72	847882	47.18
23	94494	1.49	73	60092	40.20	23	1463414	2.24	73	807879	52.26
24	94353	1.49	74	57676	44.66	24	1460136	2.24	74	765659	58.06
25	94212	1.47	75	55100	49.55	25	1456865	2.22	75	721205	64.42
26	94074	1.47	76	52370	54.80	26	1453631	2.22	76	674745	71.24
27	93936	1.46	77	49500	60.31	27	1450404	2.21	77	626676	78.40
28	93799	1.48	78	46515	66.06	28	1447199	2.23	78	577545	85.88
29	93660	1.51	79	43442	72.23	29	1443972	2.26	79	527945	93.90
30	93519	1.54	80	40304	79.07	30	1440709	2.29	80	478371	102.79
31	93375	1.58	81	37117	86.80	31	1437410	2.33	81	429199	112.84
32	93227	1.64	82	33895	95.68	32	1434061	2.39	82	380768	124.38
33	93074	1.70	83	30652	105.81	33	1430634	2.45	83	333408	137.55
34	92916	1.79	84	27409	117.02	34	1427129	2.54	84	287548	152.13
35	92750	1.88	85	24202	129.11	35	1423504	2.63	85	243803	167.84
36	92576	2.00	86	21077	141.91	36	1419760	2.75	86	202883	184.48
37	92391	2.14	87	18086	155.41	37	1415856	2.89	87	165455	202.03
38	92193	2.31	88	15275	169.55	38	1411764	3.06	88	132028	220.42
39	91980	2.51	89	12685	184.45	39	1407444	3.26	89	102926	239.79
40	91749	2.72	90	10345	200.23	40	1402856	3.54	90	78245	260.30
41	91499	2.97	91	8274	217.23	41	1397890	3.86	91	57878	282.40
42	91227	3.22	92	6477	235.91	42	1392494	4.19	92	41533	306.68
43	90932	3.49	93	4949	257.43	43	1386659	4.54	93	28796	334.66
44	90616	3.75	94	3675	283.81	44	1380364	4.88	94	19159	368.95
45	90276	4.06	95	2632	320.74	45	1373628	5.28	95	12090	416.96
46	89909	4.36	96	1788	377.93	46	1366375	5.67	96	7049	491.31
47	89517	4.68	97	1112	476.61	47	1358628	6.08	97	3566	619.59
48	89098	5.03	98	582	656.44	48	1350368	6.54	98	1364	853.37
49	88650	5.41	99	200	1000.00	49	1341537	7.03	99	200	1000.00

TABLE E

BLENDED 1980 CSD & 1980 CET MORTALITY TABLES

BLENDED 1980 CSD TABLE						BLENDED 1980 CET TABLE					
AGE	LX	1000DX	AGE	LX	1000DX	AGE	LX	1000DX	AGE	LX	1000DX
0	88415	3.41	50	80614	5.66	0	1345746	4.43	50	1176481	7.36
1	88114	.95	51	80158	6.10	1	1339784	1.70	51	1167222	7.93
2	88030	.89	52	79669	6.60	2	1337506	1.64	52	1158561	8.58
3	87952	.86	53	79143	7.16	3	1335312	1.61	53	1148621	9.31
4	87876	.84	54	78576	7.77	4	1333162	1.59	54	1137927	10.10
5	87802	.81	55	77965	8.43	5	1331042	1.56	55	1126434	10.96
6	87731	.78	56	77308	9.11	6	1328966	1.53	56	1114088	11.84
7	87663	.76	57	76604	9.79	7	1326933	1.51	57	1100897	12.73
8	87596	.72	58	75854	10.48	8	1324929	1.47	58	1086882	13.62
9	87533	.71	59	75059	11.23	9	1322981	1.46	59	1072080	14.60
10	87471	.70	60	74216	12.05	10	1321049	1.45	60	1056428	15.67
11	87410	.71	61	73322	13.01	11	1319133	1.46	61	1039874	16.91
12	87348	.77	62	72368	14.14	12	1317207	1.52	62	1022290	18.38
13	87281	.84	63	71345	15.50	13	1315205	1.59	63	1003500	20.15
14	87208	.94	64	70239	17.03	14	1313114	1.69	64	983279	22.14
15	87126	1.05	65	69043	18.71	15	1310895	1.80	65	961509	24.32
16	87035	1.15	66	67751	20.46	16	1308535	1.90	66	938125	26.60
17	86935	1.24	67	66365	22.31	17	1306049	1.99	67	913171	29.00
18	86827	1.31	68	64884	24.17	18	1303450	2.06	68	886689	31.42
19	86713	1.36	69	63316	26.18	19	1300765	2.11	69	858829	34.03
20	86595	1.39	70	61658	28.45	20	1298020	2.14	70	829603	36.99
21	86475	1.41	71	59904	31.10	21	1295242	2.16	71	798916	40.43
22	86353	1.42	72	58041	34.27	22	1292444	2.17	72	766616	44.55
23	86230	1.42	73	56052	38.02	23	1289639	2.17	73	732463	49.43
24	86108	1.42	74	53921	42.32	24	1286840	2.17	74	696257	55.02
25	85986	1.40	75	51639	47.05	25	1284048	2.15	75	657949	61.17
26	85866	1.41	76	49209	52.18	26	1281287	2.16	76	617702	67.83
27	85745	1.42	77	46641	57.57	27	1278519	2.17	77	575803	74.84
28	85623	1.44	78	43956	63.21	28	1275745	2.19	78	532710	82.17
29	85500	1.46	79	41178	69.29	29	1272951	2.21	79	488937	90.08
30	85375	1.50	80	38325	76.04	30	1270138	2.25	80	444894	98.85
31	85247	1.55	81	35411	83.72	31	1267280	2.30	81	400916	108.84
32	85115	1.60	82	32446	92.52	32	1264365	2.35	82	357280	120.28
33	84979	1.66	83	29444	102.65	33	1261394	2.41	83	314306	133.45
34	84838	1.75	84	26422	113.82	34	1258354	2.50	84	272362	147.97
35	84690	1.83	85	23415	125.93	35	1255208	2.58	85	232061	163.71
36	84535	1.95	86	20466	138.78	36	1251970	2.70	86	194070	180.41
37	84370	2.09	87	17626	152.39	37	1248590	2.84	87	159058	198.11
38	84194	2.25	88	14940	166.68	38	1245044	3.00	88	127547	216.68
39	84005	2.45	89	12450	181.76	39	1241309	3.20	89	99910	236.29
40	83799	2.66	90	10187	197.78	40	1237337	3.46	90	76302	257.11
41	83576	2.90	91	8172	215.12	41	1233056	3.77	91	56684	279.66
42	83334	3.15	92	6414	234.03	42	1228407	4.10	92	40832	304.24
43	83071	3.41	93	4913	255.85	43	1223371	4.43	93	28409	332.61
44	82788	3.66	94	3656	282.58	44	1217951	4.76	94	18960	367.35
45	82485	3.96	95	2623	319.76	45	1212154	5.15	95	11995	415.69
46	82158	4.24	96	1784	377.41	46	1205911	5.51	96	7009	490.63
47	81810	4.55	97	1111	476.21	47	1199266	5.92	97	3570	619.07
48	81438	4.89	98	582	656.10	48	1192166	6.36	98	1360	852.93
49	81040	5.26	99	200	1000.00	49	1184584	6.84	99	200	1000.00

TABLE F

BLENDED 1980 CSD & 1980 CET MORTALITY TABLES

BLENDED 1980 CSD TABLE						BLENDED 1980 CET TABLE					
AGE	LY	1000DX	AGE	LY	1000DX	AGE	LY	1000DX	AGE	LY	1000DX
0	75108	3.15	50	68862	5.31	0	1080889	4.10	50	950863	6.90
1	74871	.92	51	68496	5.70	1	1076457	1.67	51	944302	7.41
2	74802	.85	52	68106	6.15	2	1074659	1.60	52	937305	8.00
3	74738	.82	53	67687	6.65	3	1072940	1.57	53	929807	8.65
4	74677	.81	54	67237	7.19	4	1071255	1.56	54	921764	9.35
5	74617	.79	55	66754	7.76	5	1069584	1.54	55	913146	10.09
6	74558	.76	56	66236	8.34	6	1067937	1.51	56	903932	10.84
7	74501	.74	57	65684	8.91	7	1066324	1.49	57	894133	11.58
8	74446	.71	58	65099	9.47	8	1064735	1.46	58	883779	12.31
9	74393	.70	59	64483	10.08	9	1063180	1.45	59	872900	13.10
10	74341	.70	60	63833	10.75	10	1061638	1.45	60	861465	13.98
11	74289	.70	61	63147	11.55	11	1060099	1.45	61	849422	15.02
12	74237	.74	62	62418	12.54	12	1058562	1.49	62	836664	16.30
13	74182	.80	63	61635	13.74	13	1056985	1.55	63	823026	17.86
14	74123	.86	64	60788	15.10	14	1055347	1.61	64	808327	19.63
15	74059	.95	65	59870	16.62	15	1053648	1.70	65	792460	21.61
16	73989	1.03	66	58875	18.19	16	1051857	1.78	66	775335	23.65
17	73913	1.09	67	57804	19.81	17	1049985	1.84	67	756998	25.75
18	73832	1.15	68	56659	21.45	18	1048053	1.90	68	737505	27.89
19	73747	1.19	69	55444	23.19	19	1046062	1.94	69	716936	30.15
20	73659	1.22	70	54158	25.19	20	1044033	1.97	70	695320	32.75
21	73569	1.24	71	52794	27.57	21	1041974	1.99	71	672548	35.84
22	73478	1.25	72	51338	30.43	22	1039902	2.00	72	648444	39.56
23	73386	1.27	73	49776	33.92	23	1037822	2.02	73	622792	44.10
24	73293	1.28	74	48088	37.94	24	1035726	2.03	74	595327	49.32
25	73199	1.29	75	46264	42.42	25	1033622	2.04	75	565965	55.16
26	73105	1.30	76	44301	47.33	26	1031514	2.05	76	534746	61.53
27	73010	1.31	77	42204	52.53	27	1029399	2.06	77	501843	68.29
28	72914	1.35	78	39987	58.03	28	1027278	2.10	78	467572	75.44
29	72816	1.38	79	37667	63.98	29	1025121	2.13	79	432298	83.17
30	72716	1.42	80	35257	70.65	30	1022937	2.17	80	396344	91.85
31	72613	1.47	81	32766	78.26	31	1020717	2.22	81	359940	101.74
32	72506	1.52	82	30202	87.04	32	1018451	2.27	82	323320	113.15
33	72396	1.58	83	27573	97.15	33	1016139	2.33	83	286736	126.30
34	72282	1.66	84	24894	108.33	34	1013771	2.41	84	250521	140.83
35	72162	1.74	85	22197	120.52	35	1011328	2.49	85	215240	156.68
36	72036	1.85	86	19522	133.53	36	1008810	2.60	86	181516	173.59
37	71903	1.99	87	16915	147.37	37	1006187	2.74	87	150007	191.58
38	71760	2.15	88	14422	161.93	38	1003430	2.90	88	121269	210.51
39	71606	2.32	89	12067	177.40	39	1000520	3.07	89	95741	230.62
40	71440	2.54	90	9943	193.80	40	997448	3.30	90	73661	251.94
41	71259	2.77	91	8016	211.61	41	994156	3.60	91	55103	275.09
42	71062	3.02	92	6320	231.05	42	990577	3.93	92	39945	300.37
43	70847	3.25	93	4860	253.44	43	986684	4.23	93	27947	329.47
44	70617	3.49	94	3628	280.66	44	982510	4.54	94	18739	364.86
45	70371	3.75	95	2610	318.37	45	978049	4.88	95	11902	413.88
46	70107	4.02	96	1779	376.21	46	973276	5.23	96	6976	489.07
47	69825	4.30	97	1110	475.72	47	968186	5.59	97	3564	618.44
48	69525	4.61	98	582	656.09	48	962774	5.99	98	1360	852.92
49	69204	4.94	99	200	1000.00	49	957007	6.42	99	200	1000.00

APPENDIX II

TO: Mr. Ted Becker, Chairman, TSAG

FROM: Robert J. Johansen, Chairman
Society of Actuaries Committee
on Valuation and Nonforfeiture
Mortality Problems - Individual Life Insurance and Annuities

RE: Select Factors for Blended 1980 CSO Mortality Tables

The select factors for use with the 1980 CSO tables are different for males and females but select factors for use with the blended 1980 CSO tables must themselves be blended.

The tables of ratios of male l_x to total l_x shown in the report of our Committee indicate that for most of the insuring ages the ratios of males and females in the blended tables do not differ significantly from the ratio at the pivotal age. This suggests that the pivotal age ratio can be used for all ages.

The select factors must also be weighted for the relative male and female mortality rates. Considering the nature of the select factors and the need for a practicable solution, it seems reasonable to assume that female mortality is 60% of male mortality. Using the pivotal age ratios ($=z$) and assuming female mortality is 60% of male mortality the blended factors can be obtained from:

$$z F_t^T = [z/100 \times F_t^M + 0.6(1-z/100) F_t^F] \div [z/100 + 0.6(1-z/100)]$$

where z is the ratio % at the pivotal age of l_x male to l_x total and F_t^M and F_t^F are the male and female selection factors for year t and $z F_t^T$ is the selection factor applicable to the blended CSO table having $z\%$ male l_x to total l_x at the pivotal age.