NOTICES OF PROPOSED RULEMAKING

Unless exempted by A.R.S. § 41-1005, each agency shall begin the rulemaking process by first submitting to the Secretary of State's Office a Notice of Rulemaking Docket Opening followed by a Notice of Proposed Rulemaking that contains the preamble and the full text of the rules. The Secretary of State's Office publishes each Notice in the next available issue of the *Register* according to the schedule of deadlines for *Register* publication. Under the Administrative Procedure Act (A.R.S. § 41-1001 et seq.), an agency must allow at least 30 days to elapse after the publication of the Notice of Proposed Rulemaking in the *Register* before beginning any proceedings for making, amending, or repealing any rule. (A.R.S. §§ 41-1013 and 41-1022)

NOTICE OF PROPOSED RULEMAKING

TITLE 2. ADMINISTRATION

CHAPTER 8. STATE RETIREMENT SYSTEM BOARD

<u>PREAMBLE</u>

1.	**Sections Affected**	**Rulemaking Action**

Sections Affected	**Rulemaking Action**
R2-8-123	Amend
Table 1	Amend
Table 2	Amend
Table 3	Repeal
Table 3A	New Table
Table 3B	New Table
Table 4A	Repeal
Table 4B	Repeal
Table 4C	Repeal
Table 4	New Table
Table 5	Renumber
Table 5	New Table
Table 6	Renumber
Table 6	Amend
Table 7	New Table
R2-8-126	Amend
Exhibit A	Repeal
Exhibit B	Repeal
Table 1	Repeal
Table 2	Repeal
Table 3	Repeal
Exhibit C	Repeal
Exhibit D	Repeal
Table 1	Repeal
Table 2	Repeal
Table 3	Repeal
Table 4	Repeal
Table 5	Repeal
Table 6	Repeal
Exhibit E	Repeal
Table 1	Repeal
Table 2	Repeal
Table 3	Repeal
Table 4	Repeal
Table 5	Repeal
Table 6	Repeal
Exhibit F	Repeal
Table 1	Repeal
Table 2	Repeal
Table 3	Repeal
Table 4	Repeal
Table 5	Repeal

Table 6	Repeal
Exhibit G	Repeal
Exhibit H	Repeal
Exhibit I	Repeal
Exhibit J	Repeal
Exhibit K	Repeal
Exhibit L	Repeal
Table 1	Repeal
Table 2	Repeal
Table 3	Repeal
Table 4	Repeal
Table 5	Repeal
Table 6	Repeal
Table 7	Repeal
Exhibit M	Repeal
Table 1	Repeal
Table 2	Repeal
Table 3	Repeal
Table 4	Repeal
Table 5	Repeal
Table 6	Repeal

2. **The specific authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):**

Authorizing statute: A.R.S. § 38-714(F)(5)

Implementing statutes: A.R.S. §§ 38-711(2); 38-714(G); 38-714(H) (3); 38-736; and 38-737

3. **A list of all previous notices appearing in the Register addressing the proposed rule:**

Notice of Docket Opening: 10 A.A.R. 420, February 6, 2004

4. **The name and address of agency personnel with whom persons may communicate regarding the rule:**

Name:	Nancy O. Johnson, Rules Coordinator
Address:	Arizona State Retirement System 3300 N. Central Ave., 14th Floor Phoenix, AZ 85012
Telephone:	(602) 308-5172
Fax:	(602) 240-5303
E-mail:	nancyj@asrs.state.az.us
	or
Name:	Susanne Dobel, Manager, External Affairs
Address:	Arizona State Retirement System 3300 N. Central Ave., 14th Floor Phoenix, AZ 85012
Telephone:	(602) 240-2039
Fax:	(602) 240-5303
E-mail:	susanned@asrs.state.az.us

5. **An explanation of the rule, including the agency's reasons for initiating the rule:**

At the November 21, 2003 Board meeting, the ASRS Board approved new actuarial assumptions for defined benefit plan members. ASRS is amending R2-8-123 to remove the old actuarial assumptions and add the new actuarial assumptions. ASRS is also making some technical corrections to clarify the rule. ASRS is amending R2-8-126 to remove the exhibits and tables of calculations in the rule. The tables and exhibits are not necessary because they are merely calculations based on the actuarial assumptions in R2-8-123. ASRS is also adding definitions to the rule and making corrections so that the rule conforms to current IRS regulations and Secretary of State rulemaking standards.

6. **A reference to any study relevant to the rule that the agency reviewed and either proposes to rely on or not rely on in its evaluation of or justification for the rules where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:**

Report on the Actuarial Experience Study for the Five-year Period Ended June 30, 2002. The public may obtain a copy of the report from the individuals listed in item #9.

7. **A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant authority of a political subdivision of this state:**
Not applicable.

8. **The preliminary summary of the economic, small business, and consumer impact:**
To measure its assumptions against actual experience, ASRS performs experience studies every five years as required by A.R.S. S38-714(H)(2). The study for the five-year period ended June 30, 2002, recommended that ASRS change some of the assumptions to better reflect recent experience. In particular, the report recommended:

• Updating the mortality table to reflect the improved longevity of ASRS members

• Adopting a new table of disability rates because ASRS is experiencing fewer disabilities than the current table predicts

• Revising the retirement assumption to better represent experience after benefit changes in 2000 and 2001

• Adopting a new assumption to anticipate the cost to ASRS of future service purchases, i.e., the cost of service purchases in excess of the amount that members pay

The ASRS Board adopted these new assumptions at its public meeting in November of 2003.

If the new assumptions had been in effect on June 30, 2002, the normal cost rate determined as of June 30, 2002, would have increased from 11.90% to 12.67%. The actuarial accrued liability would have increased from $22,586,920,751 to $23,057,116,448. The contribution rate would have increased from 5.20% to 5.93%, an increase of .73% for both employers and members. And the funded status would have declined from 104.6% to 102.5%. These changes are hypothetical – the effect of the new assumptions on contributions will first be felt in July of 2005 when the rates determined in the June 30, 2004, valuation take effect.

Both public employers and active members contribute to the ASRS plan, and they will both benefit from this rule. The assumption changes will cause contribution rates and funded status to be more stable because the new assumptions anticipate experience that would otherwise cause liability losses.

Although there will be higher contributions in the years following the change in assumptions, they will be offset by lower contributions in later years.

9. **The name and address of agency personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:**

Name:	Nancy O. Johnson, Rules Coordinator
Address:	Arizona State Retirement System 3300 N. Central Ave., 14th Floor Phoenix, AZ 85012
Telephone:	(602) 308-5172
Fax:	(602) 240-5303
E-mail:	nancyj@asrs.state.az.us
	or
Name:	Susanne Dobel, Manager, External Operations
Address:	Arizona State Retirement System 3300 N. Central Ave., 14th Floor Phoenix, AZ 85012
Telephone:	(602) 240-2039
Fax:	(602) 240-5303
E-mail:	susanned@asrs.state.az.us

10. **The time, place, and nature of the proceedings for the adoption, amendment, or repeal of the rule or, if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rule:**
The ASRS has scheduled an oral proceeding on the proposed rulemaking:

Date:	June 7, 2004
Location:	3300 N. Central 10th Floor Board Room

Phoenix, AZ 85012

Time: 1:30 p.m.

The close of record is 5 p.m., Monday, June 7, 2003.

A person may also submit written comments on the proposed rules no later than 5 p.m., Monday, June 7, 2004, to the individuals listed in items #4 and #9.

11. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:
Not applicable

12. Incorporation by reference and their location in the rules:
Not applicable

13. The full text of the rule follows:

TITLE 2. ADMINISTRATION

CHAPTER 8. STATE RETIREMENT SYSTEM BOARD

ARTICLE 1. RETIREMENT SYSTEM; DEFINED BENEFIT PLAN

ARTICLE 1. RETIREMENT SYSTEM; DEFINED BENEFIT PLAN

R2-8-123.   Actuarial Assumptions and Actuarial Value of Assets

A. The following definitions apply to this Section unless otherwise specified:

1. "Actuarial assumption" means an estimate of an uncertain future event that affects pension liabilities.

2. "Board" means the same as in A.R.S. § 38-711.

3. "Credited service" means the same as in A.R.S. § 38-711.

4. ~~"Decrement" means a factor in the total likelihood a member will leave a retirement plan prior to retirement.~~

~~5~~4. "Deferred benefit" means the monthly annuity a member would receive upon reaching normal retirement date.

~~6~~5. "Disabled member" means a member who is receiving long-term disability payments.

~~7~~6. "Investment yield rate" means a percentage of return on an asset.

~~8~~7. "Market value" means an estimated monetary worth of an asset, based on the current demand for the asset, and the amount of that type of asset that is available for sale.

~~9~~8. "Member" means the same as in A.R.S. § 38-711.

~~10~~9. "Non-disabled member" means a member who is not receiving long-term disability payments.

~~11~~10."Normal retirement date" means the same as in A.R.S. § 38-711.

~~12~~11."Present value" means the amount of money needed on a specified date, such as the date of termination, to fund a future payment or series of payments based on the actuarial assumptions approved by the Board.

~~13~~12."Select <u>retirement</u> rate" means a rate that is based on age and years of credited service.

~~14~~13."Ultimate <u>retirement</u> rate" means a rate that depends only on age, and not on years of credited service.

~~15. "Vested" means the same as in A.R.S. § 38-711.~~

B. The Board adopts the following:

1. Actuarial Assumptions:

   a. The interest and investment yield rate is 8% per annum, compounded annually.

   b. Group long-term disability rates are based on Table 1 for male disability rates and Table 2 for female disability rates.

   c. ~~Non-disabled~~ <u>For the purpose of calculating liability amounts, normal cost rates, and contribution rates, non-disabled</u> member mortality rates are based on <u>Table 3A,</u> the ~~1983~~ <u>1994</u> Group Annuity Mortality ~~Table with margins, set back one year for males and not set back for females as provided in volume XXXV of the Transactions of the Society of Actuaries published in 1985 by the Society of Actuaries, 475 N. Martingale Road, Suite 800, Schaumburg, IL 60173-3599. This table is incorporated by reference and on file with ASRS. This incorporation~~

~~by reference contains no future editions or amendments~~ Static Table – Male and the 1994 Group Annuity Mortality Static Table – Female, each table projected to 2005 using projection scale AA. Disabled member mortality rates are based on Table 3B of this Section.

d. To calculate actuarial equivalent benefits, the non-disabled mortality rates are based on Table 4, 1994 Group Annuity Mortality Static Table Projected to 2005 with Projection Scale AA Unisex 50% Male/ 50% Female.

~~d~~e. Retirement age is based on select and ultimate retirement rates at age and years of credited service shown in ~~Tables 4A, 4B and 4C~~ Table 5 of this Section.

~~e~~f. The salary scale is as follows:

Years of credited Service	Total Salary Increase
1	9.50%
2	8.50%
3	7.00%
4	6.30%
5	5.90%
6	5.75%
7	5.50%
8	5.30%
9	5.25%
10	5.00%
11-19	4.75%
20 +	4.50%

~~f~~g. ~~Withdrawal rates for causes other than death, disability, or retirement are based on select and ultimate withdrawal rates~~ Rates of withdrawal for male members as provided in Table ~~5~~ 6 ~~for males~~ and for female members as provided in Table ~~6~~ 7 ~~for females~~.

~~g~~h. Seventy-five percent of future retirees will be eligible to receive a post-retirement health insurance premium supplement. Of the 75%, 40% of the retirees will be eligible for single coverage and 60% of the retirees will be eligible for family coverage.

~~h~~i. A member who terminates employment with five or more years of credited service, but before eligibility for retirement, will choose to receive the contributions under A.R.S. § 38-740 if the value of the contributions exceeds the present value of the deferred benefit. If the value of the contributions does not exceed the present value of the defined benefit, the member will elect the member's deferred benefits. A member who terminates employment with less than five years of credited service will withdraw that member's contributions with interest. A member who is eligible for early retirement when the member terminates employment will elect to begin receiving benefits immediately.

~~i~~j. All members have beneficiaries of the opposite sex and the beneficiary of a male member is three years younger than the member and the beneficiary of a female member is three years older than the member.

k. To reflect the excess cost of service purchases, the credited service expected to be earned by a member in the future is increased by 2.15%.

2. The actuarial value of assets ~~is equal to~~ equals the market value of assets:

a. ~~minus~~ Minus, for years in which actual investment return exceeds expected investment return, a ten-year (five-year for fiscal years before fiscal year 2002) phase-in of the excess ~~or shortfall of for years in which actual investment return over~~ exceeds expected investment return., and

b. Plus, for years in which actual investment return falls short of expected investment return, a ten-year (five-year for fiscal years before fiscal year 202) phase-in of ~~any~~ the shortfall ~~for years in which actual investment return fell short of expected investment return~~.

Table 1. Graduated Tabular Rates of Disability - Active Male Members

Age (1)	*Rate of Disability (2)*	*Age (1)*	*Rate of Disability (2)*
18	0.000715	42	0.002020
19	0.000740	43	0.002238
20	0.000766	44	0.002495
21	0.000783	45	0.002798
22	0.000800	46	0.003151

Age	Rate	Age	Rate
~~23~~	~~0.000817~~	~~47~~	~~0.003560~~
~~24~~	~~0.000833~~	~~48~~	~~0.004019~~
~~25~~	~~0.000851~~	~~49~~	~~0.004535~~
~~26~~	~~0.000869~~	~~50~~	~~0.005128~~
~~27~~	~~0.000890~~	~~51~~	~~0.005818~~
~~28~~	~~0.000914~~	~~52~~	~~0.006620~~
~~29~~	~~0.000941~~	~~53~~	~~0.007541~~
~~30~~	~~0.000973~~	~~54~~	~~0.008560~~
~~31~~	~~0.001009~~	~~55~~	~~0.009644~~
~~32~~	~~0.001050~~	~~56~~	~~0.010759~~
~~33~~	~~0.001098~~	~~57~~	~~0.011870~~
~~34~~	~~0.001154~~	~~58~~	~~0.012954~~
~~35~~	~~0.001218~~	~~59~~	~~0.014001~~
~~36~~	~~0.001290~~	~~60~~	~~0.014990~~
~~37~~	~~0.001370~~	~~61~~	~~0.015900~~
~~38~~	~~0.001460~~	~~62~~	~~0.016710~~
~~39~~	~~0.001565~~	~~63~~	~~0.017430~~
~~40~~	~~0.001689~~	~~64~~	~~0.018034~~
~~41~~	~~0.001839~~	~~65~~	~~0.000000~~

Age	*Rate of Disability*	*Age*	*Rate of Disability*
19	0.000555	47	0.004272
20	0.000575	48	0.004421
21	0.000587	49	0.004535
22	0.000600	50	0.005128
23	0.000613	51	0.005818
24	0.000625	52	0.005958
25	0.000638	53	0.006410
26	0.000652	54	0.006848
27	0.000668	55	0.007715
28	0.000686	56	0.008608
29	0.000706	57	0.009496
30	0.000730	58	0.010363
31	0.000757	59	0.011201
32	0.000788	60	0.011992
33	0.000878	61	0.012720
34	0.000981	62	0.013368
35	0.001096	63	0.013944
36	0.001226	64	0.014427
37	0.001370	65	0.000100
38	0.001679	66	0.000100
39	0.001878	67	0.000100
40	0.002111	68	0.000100
41	0.002299	69	0.000100
42	0.002525	70	0.000100
43	0.002686	71	0.000100
44	0.002994	72	0.000100
45	0.003358	73	0.000100
46	0.003781	74	0.000100

Table 2. Graduated Tabular Rates of Disability - Active Female Member

~~Age (1)~~	~~Rate of Disability (2)~~	~~Age (1)~~	~~Rate of Disability (2)~~
~~18~~	~~0.000965~~	~~42~~	~~0.003050~~
~~19~~	~~0.000972~~	~~43~~	~~0.003282~~
~~20~~	~~0.000978~~	~~44~~	~~0.003553~~
~~21~~	~~0.000987~~	~~45~~	~~0.003867~~
~~22~~	~~0.001000~~	~~46~~	~~0.004225~~
~~23~~	~~0.001018~~	~~47~~	~~0.004628~~
~~24~~	~~0.001042~~	~~48~~	~~0.005071~~
~~25~~	~~0.001072~~	~~49~~	~~0.005553~~
~~26~~	~~0.001110~~	~~50~~	~~0.006081~~
~~27~~	~~0.001157~~	~~51~~	~~0.006657~~
~~28~~	~~0.001212~~	~~52~~	~~0.007282~~
~~29~~	~~0.001275~~	~~53~~	~~0.007954~~
~~30~~	~~0.001352~~	~~54~~	~~0.008656~~
~~31~~	~~0.001444~~	~~55~~	~~0.009362~~
~~32~~	~~0.001554~~	~~56~~	~~0.010047~~
~~33~~	~~0.001688~~	~~57~~	~~0.010683~~
~~34~~	~~0.001841~~	~~58~~	~~0.011251~~
~~35~~	~~0.002004~~	~~59~~	~~0.011738~~
~~36~~	~~0.002165~~	~~60~~	~~0.012126~~
~~37~~	~~0.002315~~	~~61~~	~~0.012397~~
~~38~~	~~0.002448~~	~~62~~	~~0.012532~~
~~39~~	~~0.002574~~	~~63~~	~~0.013532~~
~~40~~	~~0.002707~~	~~64~~	~~0.014532~~
~~41~~	~~0.002860~~	~~65~~	~~0.000000~~

Age	_Rate of Disability_	_Age_	_Rate of Disability_
19	0.000729	47	0.003749
20	0.000734	48	0.004057
21	0.000740	49	0.004442
22	0.000750	50	0.004865
23	0.000764	51	0.005326
24	0.000782	52	0.005680
25	0.000804	53	0.005966
26	0.000833	54	0.006492
27	0.000868	55	0.004022
28	0.000909	56	0.008038
29	0.000956	57	0.009081
30	0.001014	58	0.010126
31	0.001097	59	0.010564
32	0.001197	60	0.010913
33	0.001317	61	0.011157
34	0.001436	62	0.011905
35	0.001563	63	0.013532
36	0.001689	64	0.014532
37	0.001806	65	0.000100
38	0.001909	66	0.000100
39	0.002008	67	0.000100
40	0.002111	68	0.000100
41	0.002231	69	0.000100
42	0.002410	70	0.000100
43	0.002626	71	0.000100
44	0.002878	72	0.000100
45	0.003171	73	0.000100
46	0.003465	74	0.000100

Table 3. ~~Disabled Member Mortality Rates~~ <u>Repealed</u>

~~Age~~	~~Male~~	~~Female~~	~~Age~~	~~Male~~	~~Female~~
~~20~~	~~0.069879~~	~~0.053877~~	~~66~~	~~0.061623~~	~~0.026840~~
~~21~~	~~0.069996~~	~~0.052371~~	~~67~~	~~0.061524~~	~~0.025983~~
~~22~~	~~0.070844~~	~~0.051719~~	~~68~~	~~0.061425~~	~~0.025358~~
~~23~~	~~0.072426~~	~~0.051921~~	~~69~~	~~0.061410~~	~~0.024949~~
~~24~~	~~0.074739~~	~~0.052977~~	~~70~~	~~0.067459~~	~~0.024778~~
~~25~~	~~0.077774~~	~~0.054887~~	~~71~~	~~0.074692~~	~~0.025103~~
~~26~~	~~0.081514~~	~~0.057649~~	~~72~~	~~0.081981~~	~~0.026205~~
~~27~~	~~0.085917~~	~~0.061249~~	~~73~~	~~0.088344~~	~~0.028186~~
~~28~~	~~0.090912~~	~~0.065656~~	~~74~~	~~0.093244~~	~~0.030948~~
~~29~~	~~0.096392~~	~~0.070808~~	~~75~~	~~0.096503~~	~~0.034291~~
~~30~~	~~0.102203~~	~~0.076604~~	~~76~~	~~0.098256~~	~~0.038087~~
~~31~~	~~0.108136~~	~~0.082892~~	~~77~~	~~0.098856~~	~~0.042217~~
~~32~~	~~0.113923~~	~~0.089460~~	~~78~~	~~0.098860~~	~~0.046540~~
~~33~~	~~0.119246~~	~~0.096034~~	~~79~~	~~0.098874~~	~~0.050814~~
~~34~~	~~0.123755~~	~~0.102284~~	~~80~~	~~0.098892~~	~~0.054859~~
~~35~~	~~0.127088~~	~~0.107853~~	~~81~~	~~0.099251~~	~~0.058639~~
~~36~~	~~0.128906~~	~~0.112409~~	~~82~~	~~0.100129~~	~~0.062150~~
~~37~~	~~0.128926~~	~~0.115626~~	~~83~~	~~0.108361~~	~~0.064523~~
~~38~~	~~0.126987~~	~~0.117135~~	~~84~~	~~0.117830~~	~~0.070897~~
~~39~~	~~0.123139~~	~~0.116642~~	~~85~~	~~0.127595~~	~~0.077687~~
~~40~~	~~0.117613~~	~~0.113967~~	~~86~~	~~0.137967~~	~~0.085078~~
~~41~~	~~0.110786~~	~~0.109054~~	~~87~~	~~0.148744~~	~~0.093189~~
~~42~~	~~0.103215~~	~~0.102042~~	~~88~~	~~0.160081~~	~~0.102150~~
~~43~~	~~0.095530~~	~~0.093478~~	~~89~~	~~0.172066~~	~~0.112616~~
~~44~~	~~0.088266~~	~~0.084216~~	~~90~~	~~0.184785~~	~~0.124167~~
~~45~~	~~0.081841~~	~~0.075172~~	~~91~~	~~0.198016~~	~~0.136751~~
~~46~~	~~0.076701~~	~~0.067198~~	~~92~~	~~0.211622~~	~~0.150700~~
~~47~~	~~0.073156~~	~~0.060788~~	~~93~~	~~0.225563~~	~~0.166197~~
~~48~~	~~0.071164~~	~~0.056136~~	~~94~~	~~0.242116~~	~~0.183448~~
~~49~~	~~0.070180~~	~~0.053121~~	~~95~~	~~0.260096~~	~~0.202688~~
~~50~~	~~0.069484~~	~~0.051392~~	~~96~~	~~0.276040~~	~~0.224174~~
~~51~~	~~0.068278~~	~~0.050436~~	~~97~~	~~0.293282~~	~~0.246715~~
~~52~~	~~0.066081~~	~~0.049707~~	~~98~~	~~0.312003~~	~~0.270999~~
~~53~~	~~0.062961~~	~~0.048730~~	~~99~~	~~0.332393~~	~~0.297983~~
~~54~~	~~0.062820~~	~~0.047328~~	~~100~~	~~0.354650~~	~~0.327986~~
~~55~~	~~0.062712~~	~~0.045671~~	~~101~~	~~0.378984~~	~~0.361361~~
~~56~~	~~0.062613~~	~~0.044033~~	~~102~~	~~0.405613~~	~~0.398774~~
~~57~~	~~0.062514~~	~~0.042368~~	~~103~~	~~0.436780~~	~~0.439825~~
~~58~~	~~0.062415~~	~~0.040421~~	~~104~~	~~0.474728~~	~~0.487067~~
~~59~~	~~0.062316~~	~~0.038255~~	~~105~~	~~0.521701~~	~~0.542018~~
~~60~~	~~0.062217~~	~~0.036058~~	~~106~~	~~0.579939~~	~~0.606540~~
~~61~~	~~0.062118~~	~~0.033981~~	~~107~~	~~0.651687~~	~~0.682566~~
~~62~~	~~0.062019~~	~~0.032048~~	~~108~~	~~0.739187~~	~~0.772094~~
~~63~~	~~0.061920~~	~~0.030396~~	~~109~~	~~0.844683~~	~~0.877193~~
~~64~~	~~0.061821~~	~~0.029038~~	~~110~~	~~1.000000~~	~~1.000000~~
~~65~~	~~0.061722~~	~~0.027868~~			

Table 3A. **Non-disabled Member Mortality Rates, based on the 1994 Group Annuity Mortality Static Table – Male and the 1994 Group Annuity Mortality Static Table — Female, projected to 2005 using projection scale AA**

Age	Male	Female	Age	Male	Female
1	0.000474	0.000425	61	0.007610	0.004820
2	0.000320	0.000277	62	0.008593	0.005519
3	0.000266	0.000207	63	0.009823	0.006319
4	0.000207	0.000155	64	0.011081	0.007212
5	0.000190	0.000140	65	0.012447	0.008173
6	0.000182	0.000131	66	0.014062	0.009174
7	0.000174	0.000123	67	0.015616	0.010187
8	0.000161	0.000110	68	0.017006	0.011132
9	0.000155	0.000104	69	0.018607	0.012027
10	0.000158	0.000105	70	0.020095	0.012993
11	0.000167	0.000111	71	0.021976	0.013995
12	0.000181	0.000119	72	0.024119	0.015449
13	0.000204	0.000131	73	0.026422	0.016980
14	0.000241	0.000155	74	0.028836	0.018865
15	0.000279	0.000181	75	0.031865	0.020768
16	0.000317	0.000205	76	0.034988	0.023183
17	0.000348	0.000224	77	0.039115	0.026257
18	0.000372	0.000234	78	0.043967	0.029368
19	0.000392	0.000237	79	0.049462	0.032732
20	0.000411	0.000238	80	0.055535	0.036466
21	0.000434	0.000237	81	0.062120	0.040684
22	0.000460	0.000239	82	0.069145	0.045498
23	0.000499	0.000245	83	0.069145	0.050778
24	0.000540	0.000246	84	0.082949	0.056445
25	0.000592	0.000249	85	0.090009	0.063399
26	0.000651	0.000257	86	0.097925	0.071305
27	0.000688	0.000264	87	0.108262	0.080399
28	0.000714	0.000275	88	0.120168	0.089733
29	0.000737	0.000290	89	0.131971	0.101194
30	0.000758	0.000314	90	0.146335	0.112485
31	0.000777	0.000341	91	0.160046	0.124565
32	0.000794	0.000363	92	0.176355	0.137358
33	0.000803	0.000382	93	0.191942	0.152535
34	0.000803	0.000402	94	0.208688	0.166959
35	0.000805	0.000423	95	0.228518	0.182157
36	0.000816	0.000448	96	0.246032	0.198127
37	0.000843	0.000477	97	0.262960	0.217251
38	0.000879	0.000512	98	0.282155	0.235111
39	0.000925	0.000552	99	0.298000	0.253902
40	0.000981	0.000600	100	0.313766	0.273401
41	0.001047	0.000650	101	0.333461	0.296629
42	0.001121	0.000699	102	0.350330	0.317093
43	0.001197	0.000743	103	0.368542	0.338505
44	0.001277	0.000782	104	0.387855	0.361016
45	0.001366	0.000815	105	0.407224	0.383597
46	0.001475	0.000855	106	0.425599	0.405217
47	0.001608	0.000911	107	0.441935	0.424846
48	0.001760	0.000988	108	0.457553	0.444358
49	0.001926	0.001073	109	0.473150	0.464469
50	0.002112	0.001183	110	0.486745	0.482325
51	0.002326	0.001313	111	0.496356	0.495110
52	0.002573	0.001485	112	0.500000	0.500000
53	0.002870	0.001670	113	0.500000	0.500000
54	0.003186	0.001866	114	0.500000	0.500000
55	0.003583	0.002100	115	0.500000	0.500000
56	0.004053	0.002399	116	0.500000	0.500000
57	0.004622	0.002762	117	0.500000	0.500000
58	0.005276	0.003179	118	0.500000	0.500000
59	0.005937	0.003656	119	0.500000	0.500000
60	0.006679	0.004201	120	1.000000	1.000000

Table 3B. **Disabled Member Mortality Rates**

Age	Male	Female	Age	Male	Female
20	0.034940	0.026939	66	0.030812	0.013420
21	0.034998	0.026168	67	0.030762	0.012992
22	0.035422	0.025860	68	0.030713	0.012679
23	0.036213	0.025961	69	0.030705	0.012475
24	0.037370	0.026489	70	0.033730	0.012993
25	0.038887	0.027444	71	0.037346	0.013995
26	0.040757	0.028825	72	0.040991	0.015449
27	0.042959	0.030625	73	0.044172	0.016980
28	0.045456	0.032828	74	0.046622	0.018865
29	0.048196	0.035404	75	0.048252	0.020768
30	0.051102	0.038302	76	0.049128	0.023183
31	0.054068	0.041446	77	0.049428	0.026257
32	0.056962	0.044730	78	0.049430	0.029368
33	0.059623	0.048017	79	0.049462	0.032732
34	0.061878	0.051142	80	0.055535	0.036466
35	0.063544	0.053927	81	0.062120	0.040684
36	0.064453	0.056205	82	0.069145	0.045498
37	0.064463	0.057813	83	0.075533	0.050778
38	0.063494	0.058568	84	0.082949	0.056445
39	0.061570	0.058321	85	0.090009	0.063399
40	0.058807	0.056984	86	0.097925	0.071305
41	0.055393	0.054527	87	0.108262	0.080399
42	0.051608	0.051021	88	0.120168	0.089773
43	0.047765	0.046739	89	0.131971	0.101194
44	0.044133	0.042108	90	0.146335	0.112485
45	0.040921	0.037586	91	0.160046	0.124565
46	0.038351	0.033599	92	0.176355	0.137358
47	0.036578	0.030394	93	0.191942	0.152535
48	0.035582	0.028068	94	0.208688	0.166959
49	0.035090	0.026561	95	0.228518	0.182157
50	0.034742	0.025696	96	0.246032	0.198127
51	0.034139	0.025218	97	0.262960	0.217251
52	0.033041	0.024854	98	0.282155	0.235111
53	0.031481	0.024365	99	0.298000	0.253902
54	0.031410	0.023664	100	0.313766	0.273401
55	0.031356	0.022836	101	0.333461	0.296629
56	0.031307	0.022017	102	0.350330	0.317093
57	0.031257	0.021184	103	0.368542	0.338505
58	0.031208	0.020211	104	0.387855	0.361016

59	0.031158	0.019128	105	0.407224	0.383597
60	0.031109	0.018029	106	0.425599	0.405217
61	0.031059	0.016991	107	0.441935	0.424846
62	0.031010	0.016024	108	0.457553	0.444358
63	0.030960	0.015198	109	0.473150	0.464469
64	0.030911	0.014519	110	0.499950	0.499950
65	0.030861	0.013934	111	1.000000	1.000000

Table 4A. ~~Rates of Decrement Due to Retirement - 0 to 23 Years of Credited Service~~ <u>Repealed</u>

~~Age~~	~~Years of Credited Service~~									
	~~0-4~~	~~5-9~~	~~10-14~~	~~15~~	~~16~~	~~17~~	~~18~~	~~19~~	~~20~~	~~21-23~~
~~50 & Younger~~	~~0.000~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~
~~51~~	~~0.000~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~
~~52~~	~~0.000~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~
~~53~~	~~0.000~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~
~~54~~	~~0.000~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~
~~55~~	~~0.000~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0600~~	~~0.0600~~
~~56~~	~~0.000~~	~~0.0500~~	~~0.0550~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0800~~	~~0.0800~~
~~57~~	~~0.000~~	~~0.0500~~	~~0.0700~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.0500~~	~~0.1250~~	~~0.1250~~
~~58~~	~~0.000~~	~~0.0500~~	~~0.0750~~	~~0.0800~~	~~0.0800~~	~~0.0800~~	~~0.0800~~	~~0.0800~~	~~0.1625~~	~~0.1625~~
~~59~~	~~0.000~~	~~0.0500~~	~~0.0800~~	~~0.0900~~	~~0.0900~~	~~0.0900~~	~~0.0900~~	~~0.0900~~	~~0.2000~~	~~0.2000~~
~~60~~	~~0.000~~	~~0.0500~~	~~0.0900~~	~~0.1100~~	~~0.1100~~	~~0.1100~~	~~0.1100~~	~~0.1100~~	~~0.2625~~	~~0.2625~~
~~61~~	~~0.000~~	~~0.0500~~	~~0.1400~~	~~0.1500~~	~~0.1500~~	~~0.1500~~	~~0.1500~~	~~0.1500~~	~~0.2375~~	~~0.2375~~
~~62~~	~~0.000~~	~~0.0500~~	~~0.3400~~	~~0.3400~~	~~0.3400~~	~~0.3400~~	~~0.3400~~	~~0.3400~~	~~0.4200~~	~~0.4200~~
~~63~~	~~0.000~~	~~0.0500~~	~~0.4500~~	~~0.4500~~	~~0.4500~~	~~0.4500~~	~~0.4500~~	~~0.4500~~	~~0.5000~~	~~0.5000~~
~~64~~	~~0.000~~	~~0.0500~~	~~0.4800~~	~~0.4800~~	~~0.4800~~	~~0.4800~~	~~0.4800~~	~~0.4800~~	~~0.5300~~	~~0.5300~~
~~65~~	~~0.0250~~	~~0.0500~~	~~0.5500~~	~~0.5500~~	~~0.5500~~	~~0.5500~~	~~0.5500~~	~~0.5500~~	~~0.5500~~	~~0.5500~~
~~66 & Older~~	~~0.0250~~	~~0.1000~~	~~0.5500~~	~~0.5500~~	~~0.5500~~	~~0.5500~~	~~0.5500~~	~~0.5500~~	~~0.6000~~	~~0.6000~~

Table 4B. ~~Rates of Decrement Due to Retirement - 24 to 30 Years of Credited Service~~ <u>Repealed</u>

~~Age~~	~~Years of Credited Service~~					
	~~24~~	~~25~~	~~26~~	~~27~~	~~28-29~~	~~30~~
~~50 & Younger~~	~~0.0500~~	~~0.0500~~	~~0.0563~~	~~0.0563~~	~~0.0625~~	~~0.1000~~
~~51~~	~~0.0500~~	~~0.0500~~	~~0.0625~~	~~0.0625~~	~~0.0813~~	~~0.0938~~
~~52~~	~~0.0500~~	~~0.0625~~	~~0.0625~~	~~0.0625~~	~~0.1094~~	~~0.1000~~
~~53~~	~~0.0500~~	~~0.0625~~	~~0.1125~~	~~0.1125~~	~~0.1188~~	~~0.1125~~
~~54~~	~~0.0500~~	~~0.0625~~	~~0.1563~~	~~0.1563~~	~~0.1313~~	~~0.1375~~
~~55~~	~~0.0750~~	~~0.1625~~	~~0.1500~~	~~0.1500~~	~~0.1438~~	~~0.1875~~
~~56~~	~~0.1625~~	~~0.1500~~	~~0.1500~~	~~0.1500~~	~~0.1500~~	~~0.1500~~
~~57~~	~~0.1875~~	~~0.1875~~	~~0.1875~~	~~0.1875~~	~~0.1813~~	~~0.1750~~
~~58~~	~~0.2000~~	~~0.2000~~	~~0.2000~~	~~0.2000~~	~~0.2125~~	~~0.2125~~
~~59~~	~~0.2125~~	~~0.2125~~	~~0.2125~~	~~0.2125~~	~~0.2125~~	~~0.2500~~
~~60~~	~~0.2375~~	~~0.2500~~	~~0.2500~~	~~0.2500~~	~~0.2500~~	~~0.3000~~
~~61~~	~~0.4000~~	~~0.3000~~	~~0.3000~~	~~0.3000~~	~~0.3000~~	~~0.3125~~
~~62~~	~~0.4200~~	~~0.4400~~	~~0.4400~~	~~0.4400~~	~~0.4400~~	~~0.5000~~
~~63~~	~~0.5000~~	~~0.5300~~	~~0.5300~~	~~0.5300~~	~~0.5300~~	~~0.5500~~
~~64~~	~~0.5300~~	~~0.5500~~	~~0.5500~~	~~0.5500~~	~~0.5500~~	~~0.5500~~
~~65~~	~~0.5500~~	~~0.6000~~	~~0.6000~~	~~0.6000~~	~~0.6000~~	~~0.6000~~
~~66 & Older~~	~~0.6000~~	~~0.6000~~	~~0.6000~~	~~0.6000~~	~~0.6000~~	~~0.6000~~

Table 4C. ~~Rates of Decrement Due to Retirement - 31 to 33 or More Years of Credited Service~~ <u>Repealed</u>

~~Age~~	~~Years of Credited Service~~	
	~~31-32~~	~~33 or more~~
~~50 & Younger~~	~~0.0781~~	~~0.1250~~
~~51~~	~~0.1031~~	~~0.1375~~
~~52~~	~~0.1156~~	~~0.0750~~
~~53~~	~~0.1188~~	~~0.0750~~
~~54~~	~~0.1313~~	~~0.1250~~
~~55~~	~~0.1250~~	~~0.1250~~
~~56~~	~~0.1500~~	~~0.1500~~
~~57~~	~~0.1750~~	~~0.1750~~
~~58~~	~~0.2125~~	~~0.2125~~
~~59~~	~~0.2500~~	~~0.2500~~
~~60~~	~~0.3000~~	~~0.3000~~
~~61~~	~~0.3125~~	~~0.3125~~
~~62~~	~~0.5000~~	~~0.5000~~
~~63~~	~~0.5500~~	~~0.5500~~
~~64~~	~~0.5500~~	~~0.5500~~
~~65~~	~~0.6000~~	~~0.6000~~
~~66 & Older~~	~~0.6000~~	~~0.6000~~

Table 4.   **1994 GAM Static Projected to 2005 with Scale AA Unisex 50% Male/ 50% Female**

Age	Probability of Death	Age	Probability of Death	Age	Probability of Death
1	0.000450	41	0.000849	81	0.051402
2	0.000299	42	0.000910	82	0.057321
3	0.000236	43	0.000970	83	0.063155
4	0.000181	44	0.001029	84	0.069697
5	0.000165	45	0.001091	85	0.076704
6	0.000156	46	0.001165	86	0.084615
7	0.000148	47	0.001259	87	0.094330
8	0.000135	48	0.001374	88	0.104971
9	0.000130	49	0.001499	89	0.116582
10	0.000131	50	0.001647	90	0.129410
11	0.000139	51	0.001819	91	0.142306
12	0.000150	52	0.002029	92	0.156856
13	0.000168	53	0.002270	93	0.172239
14	0.000198	54	0.002526	94	0.187824
15	0.000230	55	0.002842	95	0.205337
16	0.000261	56	0.003226	96	0.222079
17	0.000286	57	0.003692	97	0.240105
18	0.000303	58	0.004227	98	0.258633
19	0.000315	59	0.004797	99	0.275951
20	0.000324	60	0.005440	100	0.293584
21	0.000335	61	0.006215	101	0.315045
22	0.000350	62	0.007056	102	0.333712
23	0.000372	63	0.008071	103	0.353524
24	0.000393	64	0.009147	104	0.374436
25	0.000421	65	0.010310	105	0.395411
26	0.000454	66	0.011618	106	0.415408
27	0.000476	67	0.012902	107	0.433391
28	0.000494	68	0.014069	108	0.450956
29	0.000514	69	0.015317	109	0.468810
30	0.000536	70	0.016544	110	0.484535
31	0.000559	71	0.017986	111	0.495733
32	0.000579	72	0.019784	112	0.500000
33	0.000592	73	0.021701	113	0.500000
34	0.000603	74	0.023851	114	0.500000
35	0.000614	75	0.026316	115	0.500000
36	0.000632	76	0.029086	116	0.500000
37	0.000660	77	0.032686	117	0.500000
38	0.000696	78	0.036667	118	0.500000
39	0.000738	79	0.041097	119	0.500000
40	0.000791	80	0.046001	120	1.000000

Table 5.   **Select and Ultimate Retirement Rates at Age and Years of Credited Service for Male and Female Members**

Age	0 – 4	5 - 9	10 - 14	15 – 19	20 - 24	25	26 - 29	30	31+
50	0.0000	0.0200	0.0300	0.0350	0.0400	0.0700	0.0625	0.1750	0.1250
51	0.0000	0.0200	0.0300	0.0350	0.0400	0.0700	0.0800	0.1750	0.1250
52	0.0000	0.0200	0.0300	0.0350	0.0400	0.0700	0.1000	0.1750	0.1250
53	0.0000	0.0200	0.0300	0.0350	0.0400	0.0700	0.1100	0.1750	0.1250
54	0.0000	0.0200	0.0300	0.0350	0.0400	0.0700	0.1200	0.1750	0.1250
55	0.0000	0.0200	0.0300	0.0350	0.0600	0.1625	0.1300	0.1750	0.1250
56	0.0000	0.0200	0.0350	0.0350	0.0800	0.1100	0.1500	0.2000	0.1500
57	0.0000	0.0200	0.0400	0.0400	0.1250	0.1550	0.1700	0.2250	0.1750
58	0.0000	0.0200	0.0500	0.0500	0.1625	0.1925	0.1850	0.2625	0.2125
59	0.0000	0.0300	0.0600	0.0700	0.2000	0.2300	0.2000	0.3000	0.2500
60	0.0000	0.0400	0.0700	0.0900	0.2375	0.2675	0.2000	0.3500	0.3000
61	0.0000	0.0500	0.1000	0.1500	0.3500	0.3800	0.2500	0.3500	0.3000
62	0.0000	0.0500	0.3000	0.3400	0.4000	0.4300	0.4000	0.5500	0.5000
63	0.0000	0.0600	0.3000	0.3500	0.4000	0.4300	0.3000	0.3500	0.3000
64	0.0000	0.0700	0.3000	0.4000	0.4000	0.4300	0.3000	0.3500	0.3000
65	0.0300	0.1000	0.3000	0.3000	0.3000	0.3300	0.3000	0.3500	0.3000
66	0.0300	0.1000	0.3000	0.3000	0.3000	0.3300	0.3000	0.3500	0.3000

Table 5.   ~~**Graduated Tabular Rates of Withdrawal - Active Male Members**~~

Table 6.   **Rates of Withdrawal for Active Male Members**

	Male Withdrawal Rates Years of Credited Service										
Age	0	1	2	3	4	5	6	7	8	9	10+
15	0.3888	0.3797	0.3087	0.2632	0.1580	0.1413	0.0931	0.0860	0.0735	0.0794	0.1365
16	0.3888	0.3797	0.3087	0.2632	0.1580	0.1413	0.0931	0.0860	0.0735	0.0794	0.1365
17	0.3888	0.3797	0.3087	0.2632	0.1580	0.1413	0.0931	0.0860	0.0735	0.0794	0.1365
18	0.3888	0.3797	0.3087	0.2632	0.1580	0.1413	0.0931	0.0860	0.0735	0.0794	0.1365
19	0.3809	0.3719	0.2991	0.2588	0.1544	0.1389	0.0920	0.0851	0.0723	0.0778	0.1321
20	0.3731	0.3642	0.2895	0.2545	0.1508	0.1364	0.0910	0.0843	0.0711	0.0763	0.1277
21	0.3573	0.3487	0.2703	0.2458	0.1436	0.1316	0.0889	0.0825	0.0688	0.0733	0.1189
22	0.3412	0.3324	0.2531	0.2365	0.1367	0.1268	0.0868	0.0808	0.0665	0.0704	0.1104
23	0.3250	0.3154	0.2376	0.2265	0.1300	0.1222	0.0848	0.0791	0.0643	0.0676	0.1024
24	0.3088	0.2981	0.2237	0.2162	0.1237	0.1178	0.0828	0.0775	0.0622	0.0649	0.0947
25	0.2930	0.2809	0.2111	0.2057	0.1177	0.1135	0.0808	0.0759	0.0602	0.0624	0.0874
26	0.2776	0.2638	0.1999	0.1949	0.1119	0.1094	0.0789	0.0743	0.0582	0.0599	0.0804
27	0.2628	0.2471	0.1897	0.1842	0.1064	0.1054	0.0770	0.0728	0.0564	0.0576	0.0739
28	0.2491	0.2315	0.1802	0.1738	0.1012	0.1015	0.0751	0.0712	0.0547	0.0554	0.0677
29	0.2369	0.2175	0.1708	0.1639	0.0963	0.0978	0.0733	0.0697	0.0530	0.0533	0.0619
30	0.2267	0.2055	0.1612	0.1547	0.0917	0.0943	0.0714	0.0682	0.0514	0.0514	0.0565
31	0.2187	0.1960	0.1509	0.1465	0.0874	0.0909	0.0696	0.0668	0.0499	0.0495	0.0514
32	0.2128	0.1887	0.1403	0.1392	0.0834	0.0876	0.0679	0.0653	0.0485	0.0478	0.0467
33	0.2083	0.1832	0.1301	0.1326	0.0796	0.0845	0.0661	0.0639	0.0472	0.0462	0.0424
34	0.2050	0.1792	0.1210	0.1267	0.0762	0.0815	0.0645	0.0625	0.0460	0.0447	0.0385
35	0.2021	0.1760	0.1137	0.1214	0.0729	0.0787	0.0628	0.0611	0.0448	0.0434	0.0349
36	0.1996	0.1736	0.1087	0.1165	0.0699	0.0760	0.0612	0.0597	0.0438	0.0421	0.0318
37	0.1974	0.1719	0.1055	0.1121	0.0672	0.0734	0.0596	0.0584	0.0427	0.0410	0.0290
38	0.1956	0.1708	0.1036	0.1082	0.0646	0.0710	0.0581	0.0571	0.0418	0.0400	0.0266
39	0.1942	0.1702	0.1023	0.1047	0.0623	0.0687	0.0566	0.0558	0.0409	0.0391	0.0245
40	0.1931	0.1698	0.1011	0.1015	0.0601	0.0665	0.0551	0.0546	0.0400	0.0383	0.0227
41	0.1924	0.1695	0.0996	0.0985	0.0580	0.0644	0.0535	0.0534	0.0392	0.0376	0.0213
42	0.1919	0.1693	0.0982	0.0958	0.0562	0.0624	0.0519	0.0523	0.0383	0.0369	0.0201
43	0.1915	0.1691	0.0967	0.0934	0.0544	0.0605	0.0504	0.0511	0.0375	0.0362	0.0192
44	0.1912	0.1690	0.0954	0.0912	0.0529	0.0588	0.0491	0.0496	0.0368	0.0356	0.0185
45	0.1909	0.1692	0.0944	0.0893	0.0515	0.0572	0.0482	0.0477	0.0363	0.0350	0.0179
46	0.1907	0.1698	0.0937	0.0878	0.0503	0.0559	0.0479	0.0453	0.0359	0.0345	0.0174
47	0.1905	0.1705	0.0932	0.0866	0.0492	0.0549	0.0479	0.0424	0.0358	0.0341	0.0169
48	0.1903	0.1710	0.0927	0.0853	0.0482	0.0537	0.0480	0.0396	0.0356	0.0335	0.0165
49	0.1899	0.1707	0.0918	0.0839	0.0471	0.0522	0.0476	0.0370	0.0352	0.0328	0.0161
50	0.1892	0.1692	0.0904	0.0820	0.0458	0.0502	0.0466	0.0351	0.0345	0.0319	0.0155
51	0.1881	0.1660	0.0882	0.0795	0.0441	0.0475	0.0446	0.0340	0.0332	0.0306	0.0147
52	0.1867	0.1618	0.0854	0.0766	0.0422	0.0443	0.0418	0.0336	0.0316	0.0291	0.0138
53	0.1859	0.1576	0.0829	0.0739	0.0405	0.0410	0.0389	0.0336	0.0299	0.0276	0.0128
54	0.1863	0.1547	0.0811	0.0719	0.0392	0.0381	0.0361	0.0339	0.0284	0.0263	0.0120
55	0.1887	0.1543	0.0807	0.0713	0.0386	0.0361	0.0341	0.0340	0.0272	0.0252	0.0113
56	0.1935	0.1572	0.0821	0.0724	0.0392	0.0352	0.0331	0.0340	0.0266	0.0247	0.0109

57	0.2003	0.1625	0.0850	0.0749	0.0406	0.0352	0.0328	0.0339	0.0263	0.0245	0.0107
58	0.2080	0.1693	0.0887	0.0781	0.0422	0.0358	0.0330	0.0337	0.0263	0.0245	0.0107
59	0.2155	0.1763	0.0927	0.0817	0.0437	0.0365	0.0335	0.0335	0.0263	0.0246	0.0107
60	0.2219	0.1824	0.0963	0.0848	0.0445	0.0371	0.0339	0.0333	0.0261	0.0246	0.0108
61	0.2266	0.1869	0.0993	0.0874	0.0442	0.0373	0.0342	0.0331	0.0258	0.0243	0.0109
62	0.2301	0.1905	0.1018	0.0895	0.0433	0.0373	0.0345	0.0330	0.0253	0.0240	0.0110
63	0.2328	0.1937	0.1043	0.0917	0.0423	0.0374	0.0348	0.0328	0.0248	0.0235	0.0113
64	0.2355	0.1969	0.1069	0.0942	0.0418	0.0380	0.0350	0.0326	0.0242	0.0230	0.0117
65	0.2386	0.2008	0.1101	0.0975	0.0426	0.0393	0.0353	0.0324	0.0237	0.0226	0.0123
66	0.2424	0.2056	0.1139	0.1017	0.0449	0.0415	0.0357	0.0322	0.0233	0.0221	0.0132
67	0.2467	0.2109	0.1182	0.1066	0.0484	0.0445	0.0360	0.0320	0.0230	0.0217	0.0143
68	0.2512	0.2166	0.1227	0.1120	0.0527	0.0479	0.0363	0.0318	0.0227	0.0213	0.0155
69	0.2558	0.2225	0.1274	0.1175	0.0572	0.0514	0.0366	0.0315	0.0223	0.0208	0.0167
70	0.2604	0.2282	0.1320	0.1229	0.0616	0.0549	0.0369	0.0313	0.0220	0.0204	0.0180
71	0.2626	0.2311	0.1342	0.1257	0.0638	0.0567	0.0371	0.0312	0.0219	0.0202	0.0186
72	0.2649	0.2340	0.1365	0.1284	0.0661	0.0584	0.0373	0.0311	0.0217	0.0200	0.0192
73	0.2672	0.2369	0.1388	0.1311	0.0684	0.0601	0.0375	0.0310	0.0215	0.0198	0.0198
74	0.2672	0.2369	0.1388	0.1311	0.0684	0.0601	0.0375	0.0310	0.0215	0.0198	0.0198

Table 6. ~~Graduated Tabular Rates of Withdrawal - Active Female Members~~

Table 7. **Rates of Withdrawal for Active Female Members**

	~~Female Withdrawal Rates~~ Years of Credited Service										
~~Age~~	~~0~~	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~	~~9~~	~~10+~~
15	0.3324	0.3249	0.2787	0.2761	0.2244	0.2216	0.1785	0.1486	0.1457	0.1356	0.2326
16	0.3324	0.3249	0.2787	0.2761	0.2244	0.2216	0.1785	0.1486	0.1457	0.1356	0.2326
17	0.3324	0.3249	0.2787	0.2761	0.2244	0.2216	0.1785	0.1486	0.1457	0.1356	0.2326
18	0.3324	0.3249	0.2787	0.2761	0.2244	0.2216	0.1785	0.1486	0.1457	0.1356	0.2326
19	0.3220	0.3151	0.2714	0.2678	0.2172	0.2146	0.1733	0.1445	0.1419	0.1320	0.2237
20	0.3116	0.3053	0.2640	0.2596	0.2101	0.2077	0.1680	0.1405	0.1380	0.1285	0.2148
21	0.2908	0.2858	0.2492	0.2432	0.1958	0.1937	0.1575	0.1323	0.1303	0.1215	0.1970
22	0.2726	0.2686	0.2358	0.2281	0.1826	0.1808	0.1479	0.1248	0.1231	0.1150	0.1804
23	0.2569	0.2536	0.2237	0.2143	0.1705	0.1690	0.1389	0.1179	0.1165	0.1089	0.1648
24	0.2434	0.2405	0.2127	0.2017	0.1593	0.1580	0.1307	0.1114	0.1104	0.1033	0.1503
25	0.2321	0.2293	0.2027	0.1902	0.1491	0.1480	0.1231	0.1055	0.1047	0.0980	0.1368
26	0.2227	0.2197	0.1937	0.1796	0.1397	0.1388	0.1161	0.1000	0.0994	0.0931	0.1242
27	0.2149	0.2116	0.1856	0.1700	0.1311	0.1304	0.1097	0.0949	0.0945	0.0886	0.1126
28	0.2088	0.2048	0.1782	0.1612	0.1233	0.1226	0.1037	0.0901	0.0898	0.0842	0.1017
29	0.2044	0.1989	0.1714	0.1531	0.1161	0.1155	0.0982	0.0856	0.0854	0.0801	0.0916
30	0.2015	0.1937	0.1652	0.1456	0.1094	0.1089	0.0930	0.0813	0.0811	0.0760	0.0821
31	0.2003	0.1892	0.1593	0.1385	0.1032	0.1027	0.0880	0.0772	0.0770	0.0721	0.0731
32	0.2003	0.1851	0.1539	0.1320	0.0974	0.0969	0.0833	0.0732	0.0730	0.0682	0.0647
33	0.2007	0.1815	0.1487	0.1258	0.0921	0.0916	0.0789	0.0694	0.0691	0.0645	0.0569
34	0.2003	0.1785	0.1438	0.1201	0.0873	0.0867	0.0748	0.0658	0.0653	0.0608	0.0498
35	0.1984	0.1762	0.1390	0.1147	0.0829	0.0823	0.0710	0.0624	0.0617	0.0573	0.0436

36	0.1943	0.1745	0.1344	0.1097	0.0789	0.0783	0.0675	0.0591	0.0582	0.0539	0.0382
37	0.1885	0.1732	0.1298	0.1050	0.0753	0.0747	0.0643	0.0561	0.0549	0.0506	0.0335
38	0.1821	0.1722	0.1255	0.1006	0.0721	0.0714	0.0613	0.0532	0.0518	0.0475	0.0296
39	0.1762	0.1709	0.1213	0.0966	0.0692	0.0686	0.0587	0.0506	0.0488	0.0445	0.0264
40	0.1720	0.1693	0.1174	0.0930	0.0666	0.0661	0.0563	0.0482	0.0461	0.0417	0.0239
4l	0.1701	0.1671	0.1138	0.0897	0.0644	0.0639	0.0543	0.0461	0.0437	0.0391	0.0220
42	0.1699	0.1644	0.1105	0.0868	0.0625	0.0620	0.0524	0.0441	0.0414	0.0367	0.0208
43	0.1707	0.1614	0.1074	0.0842	0.0608	0.0603	0.0508	0.0424	0.0393	0.0345	0.0199
44	0.1718	0.1584	0.1046	0.0818	0.0593	0.0589	0.0494	0.0408	0.0374	0.0324	0.0194
45	0.1725	0.1557	0.1020	0.0797	0.0579	0.0575	0.0480	0.0394	0.0356	0.0305	0.0189
46	0.1726	0.1532	0.0996	0.0778	0.0567	0.0563	0.0468	0.0380	0.0340	0.0287	0.0185
47	0.1723	0.1510	0.0975	0.0761	0.0556	0.0552	0.0456	0.0367	0.0325	0.0270	0.0181
48	0.1717	0.1490	0.0957	0.0746	0.0546	0.0541	0.0445	0.0356	0.0311	0.0254	0.0177
49	0.1708	0.1472	0.0941	0.0733	0.0536	0.0531	0.0435	0.0345	0.0298	0.0240	0.0173
50	0.1698	0.1457	0.0927	0.0722	0.0528	0.0522	0.0426	0.0335	0.0287	0.0227	0.0167
51	0.1684	0.1443	0.0917	0.0713	0.0521	0.0513	0.0417	0.0326	0.0277	0.0216	0.0160
52	0.1669	0.1431	0.0909	0.0707	0.0515	0.0505	0.0408	0.0317	0.0268	0.0206	0.0152
53	0.1656	0.1422	0.0904	0.0702	0.0510	0.0497	0.0399	0.0309	0.0260	0.0197	0.0143
54	0.1650	0.1416	0.0901	0.0700	0.0505	0.0490	0.0391	0.0302	0.0253	0.0191	0.0134
55	0.1655	0.1412	0.0901	0.0700	0.0503	0.0484	0.0384	0.0296	0.0248	0.0186	0.0125
56	0.1674	0.1410	0.0903	0.0702	0.0501	0.0478	0.0377	0.0290	0.0243	0.0183	0.0116
57	0.1704	0.1412	0.0908	0.0706	0.0501	0.0474	0.0371	0.0286	0.0240	0.0182	0.0107
58	0.1739	0.1416	0.0916	0.0712	0.0502	0.0470	0.0366	0.0281	0.0237	0.0182	0.0100
59	0.1775	0.1422	0.0926	0.0720	0.0504	0.0468	0.0361	0.0278	0.0236	0.0185	0.0093
60	0.1805	0.1432	0.0939	0.0731	0.0508	0.0466	0.0357	0.0275	0.0237	0.0190	0.0088
61	0.1827	0.1443	0.0954	0.0743	0.0513	0.0465	0.0354	0.0273	0.0238	0.0197	0.0085
62	0.1842	0.1457	0.0971	0.0758	0.0519	0.0465	0.0352	0.0272	0.0241	0.0206	0.0083
63	0.1854	0.1473	0.0990	0.0775	0.0527	0.0467	0.0350	0.0272	0.0245	0.0217	0.0084
64	0.1863	0.1493	0.1013	0.0794	0.0536	0.0469	0.0349	0.0272	0.0250	0.0231	0.0087
65	0.1872	0.1516	0.1039	0.0816	0.0547	0.0473	0.0349	0.0274	0.0257	0.0247	0.0092
66	0.1881	0.1542	0.1067	0.0841	0.0560	0.0479	0.0351	0.0276	0.0266	0.0266	0.0100
67	0.1890	0.1571	0.1099	0.0868	0.0575	0.0485	0.0353	0.0280	0.0277	0.0288	0.0109
68	0.1899	0.1603	0.1132	0.0897	0.0590	0.0493	0.0357	0.0284	0.0288	0.0311	0.0121
69	0.1907	0.1634	0.1165	0.0926	0.0606	0.0500	0.0360	0.0289	0.0299	0.0335	0.0132
70	0.1916	0.1666	0.1199	0.0955	0.0622	0.0508	0.0363	0.0293	0.0311	0.0358	0.0144
71	0.1920	0.1682	0.1215	0.0969	0.0630	0.0512	0.0365	0.0295	0.0317	0.0370	0.0150
72	0.1924	0.1698	0.1232	0.0984	0.0638	0.0516	0.0367	0.0298	0.0322	0.0382	0.0156
73	0.1714	0.1698	0.1249	0.0999	0.0646	0.0520	0.0369	0.0301	0.0327	0.0394	0.0162
74	0.1714	0.1698	0.1249	0.0999	0.0646	0.0520	0.0369	0.0301	0.0327	0.0394	0.0162

R2-8-126. ~~Annuity Conversion Factors, and Option Factors, and Transfer Factors~~ <u>Calculating benefits</u>

A. <u>The following definitions apply to this Section unless otherwise specified:</u>

<u>1.</u> <u>"Contingent annuitant" has the same meaning as in A.R.S. § 38-711.</u>

<u>2.</u> <u>"Life annuity" has the same meaning as in A.R.S. § 38-711.</u>

<u>3.</u> <u>"Member" has the same meaning as in A.R.S. § 38-711.</u>

<u>4.</u> <u>"Plan" means the same as "defined benefit plan" in A.R.S. § 38-769, and which is administered by the ASRS.</u>

<u>5.</u> <u>"Prior service" has the same meaning as in A.R.S. § 38-772.</u>

<u>6.</u> <u>"System" means the same as "defined contribution plan" as defined in A.R.S. § 38-769, and which is administered by</u>

the ASRS.

~~System retirement annuities payable pursuant to Laws 1980, Ch. 238, which are effective from and after the effective date of this rule, shall be computed as follows:~~

~~1. The member's retirement account shall be converted to a life annuity with all benefits ceasing at death, by the application of the appropriate factor from Exhibit A of this rule.~~

~~2. If a member elects to receive the actuarial equivalent of the life annuity in an optional payment form, the life annuity amount shall be converted to an optional amount as follows:~~

~~a. If the option is to provide an income for five years certain and for life thereafter, by application of the appropriate percentage from Exhibit C of this rule. A person~~

B. An individual who is ~~103~~ 104 years of age or older at the time of retirement and who elects a life annuity is not eligible ~~for this option~~ to select the option of income for five years certain and for life thereafter.

~~b. If the option is to provide an income for ten years certain and for life thereafter, by application of the appropriate percentage from Exhibit C of this rule. A person~~

C. An individual who is ~~91~~ 93 years of age or older at the time of retirement and who elects a life annuity is not eligible ~~for this option~~ to select the option of income for ten years certain and for life thereafter.

~~c. If the option is to provide an income for 15 years certain and for life thereafter, by application of the appropriate percentage from Exhibit C of this rule. A person~~

D. An individual who is ~~84~~ 85 years of age or older at the time of retirement and who elects a life annuity is not eligible ~~for this option~~ to select the option of income for 15 years certain and for life thereafter.

~~d. If the option is to provide an income during the joint lifetime of the member and another designated person, with a provision that, upon the death of the member, the same income shall be continued during the lifetime of the surviving designated person, by application of the appropriate percentage from Exhibit F of this rule; but if the income to the surviving designated person is reduced to two-thirds of the income paid to the member, by application of the appropriate percentage from Exhibit E of this rule; but if the income to the surviving designated person is reduced to one-half of the income paid to the member, by application of the appropriate percentage from Exhibit D of the rule.~~

~~**B.** System beneficiary annuities payable pursuant to Laws 1980, Ch. 238, which are effective from and after the effective date of this rule, shall be computed as follows:~~

~~1. If the option is to provide an income for five years certain and for life thereafter, by application of the appropriate conversion factor from Exhibit H of this rule.~~

~~2. If the option is to provide an income for ten years certain and for life thereafter, by application of the appropriate conversion factor from Exhibit I of this rule.~~

~~3. If the option is to provide an income for 15 years certain and for life thereafter, by application of the appropriate conversion factor from Exhibit J of this rule.~~

~~**C.** Plan retirement annuities payable pursuant to A.R.S. Title 38, Chapter 5, Article 2.1, which are effective from and after the effective date of this rule, and which are to be paid in an optional form other than a life annuity with all payments closing at the member's death, shall be computed as follows:~~

~~1. If a member elects to receive the actuarial equivalent of the life annuity in an optional payment form, the life annuity amount shall be converted to an optional amount as follows:~~

~~a. If the option is made to provide an income for five years certain and for life thereafter, by application of the appropriate percentage from Exhibit C of this rule. A person who is 103 years of age or older at the time of retirement is not eligible for this option.~~

~~b. If the option is to provide an income for ten years certain and for life thereafter, by application of the appropriate percentage from Exhibit C of this rule. A person who is 91 years of age or older at the time of retirement is not eligible for this option.~~

~~c. If the option is to provide an income for 15 years certain and for life thereafter, by application of the appropriate percentage from Exhibit C of this rule. A person who is 84 years of age or older at the time of retirement is not eligible for this option.~~

~~d. If the option is to provide an income during the joint lifetime of the member and another designated person, with a provision that, upon the death of the member, the same income shall be continued during the lifetime of the surviving designated person, by application of the appropriate percentage from Exhibit F of this rule; but if the income to the surviving designated person is reduced to two-thirds of the income paid to the member, by application of the appropriate percentage from Exhibit E of this rule; but if the income to the surviving designated person is reduced to one-half of the income paid to the member, by application of the appropriate percentage from Exhibit D of this rule.~~

~~2. Plan annuities for persons who elect early retirement shall be computed using the factors in Exhibit B of this rule.~~

~~3. Plan annuities for persons who elect the level income or bridge option benefit to age 62 shall be computed using the factors in Exhibit G of this rule.~~

~~4. Notwithstanding any other provisions of this subsection, if~~

E. If the life annuity of any Plan member is ~~in an amount~~ less than $20 per month, ~~such~~ the ASRS shall not pay the annuity.~~shall not be paid, but a~~ Instead, the ASRS shall pay a lump sum payment ~~shall be paid~~ in the amount determined by ~~application of the appropriate conversion factor from Exhibit K of this rule~~ using the appropriate actuarial assumptions in R2-8-123.

~~D.~~ ~~Plan beneficiary annuities payable in an optional form in lieu of a single payment pursuant to A.R.S. Title 38, Chapter 5, Article 2.1, which are effective from and after the effective date of this rule, shall be computed as follows:~~

    ~~1.~~ ~~If the option is to provide an income for five years certain and for life thereafter, by application of the appropriate conversion factor from Exhibit H of this rule.~~

    ~~2.~~ ~~If the option is to provide an income for ten years certain and for life thereafter, by application of the appropriate conversion factor from Exhibit I of this rule.~~

    ~~3.~~ ~~If the option is to provide an income for 15 years certain and for life thereafter, by application of the appropriate conversion factor from Exhibit J of this rule.~~

~~E~~F. ~~The application of this rule shall in every case~~ When the ASRS calculates a member's or beneficiary's benefits, the calculations are ~~be~~ based on the attained age of the ~~applicant or applicants~~ member or beneficiary, determined in years and full months, as of the effective date of the benefit payment.

~~F~~G. Any prior service benefit which is payable to a member shall be added to the life annuity of the member before the application of any optional payment plan ~~conversion factor provided by this rule~~ calculation.

~~G~~H. A member who is ten or more years older than a non-spousal contingent annuitant is not eligible to participate in a 100% joint-and-survivor option. A member who is 24 or more years older than a non-spousal contingent annuitant is not eligible to participate in a 66 2/3 % joint-and-survivor option.

~~H.~~ ~~If a member elects to receive a lump sum payment, the factors in Exhibit K of this rule shall be used to determine the amounts to be paid, if any, as a lump sum payment.~~

~~I.~~ ~~The factors to be used for transfers between the Arizona State Retirement System and another state retirement system as provided by A.R.S. § 38-922 are those determined by Exhibit L of this rule.~~

~~J.~~ ~~The factors to be used for transfers to the defined contribution retirement plan option as provided by A.R.S. § 38-954 are those provided in Exhibit L of this rule.~~

~~K.~~ ~~The factors to be used for transfers between the Arizona State Retirement System and a retirement system established by an Arizona Charter city pursuant to A.R.S. § 38-781.24, are those determined by Exhibit M of this rule.~~

~~L.~~ ~~All tables to be used for application in accordance with this rule may be extended or interpolated, as necessary, on the same actuarial basis as was used to develop such tables. The tables to be used for purposes of this rule are as follows:~~

~~**Exhibit A.** Present Value Factors - Monthly Annuity Per $1,000 of Account Balance~~

~~ARIZONA STATE RETIREMENT SYSTEM~~   ~~BASIS (50/50 BLEND 83GAM,M(-l),F(NO ADJ),8%)~~
~~PRESENT VALUE FACTORS~~   ~~EFFECTIVE 10/1/92~~
~~MONTHLY ANNUITY PER $1,000 OF ACCOUNT BALANCE~~

~~AGE~~	~~0 MO~~	~~1 MO~~	~~2 MO~~	~~3 MO~~	~~4 MO~~	~~5 MO~~	~~6 MO~~	~~7 MO~~	~~8 MO~~	~~9 MO~~	~~10 MO~~	~~11 MO~~
~~10~~	~~6.4564~~	~~6.4567~~	~~6.4571~~	~~6.4574~~	~~6.4578~~	~~6.4581~~	~~6.4584~~	~~6.4588~~	~~6.4591~~	~~6.4595~~	~~6.4598~~	~~6.4602~~
~~11~~	~~6.4605~~	~~6.4609~~	~~6.4612~~	~~6.4616~~	~~6.4620~~	~~6.4623~~	~~6.4627~~	~~6.4631~~	~~6.4634~~	~~6.4638~~	~~6.4642~~	~~6.4645~~
~~12~~	~~6.4649~~	~~6.4653~~	~~6.4657~~	~~6.4661~~	~~6.4664~~	~~6.4668~~	~~6.4672~~	~~6.4676~~	~~6.4680~~	~~6.4684~~	~~6.4687~~	~~6.4691~~
~~13~~	~~6.4695~~	~~6.4699~~	~~6.4704~~	~~6.4708~~	~~6.4712~~	~~6.4716~~	~~6.4720~~	~~6.4725~~	~~6.4729~~	~~6.4733~~	~~6.4737~~	~~6.4742~~
~~14~~	~~6.4746~~	~~6.4750~~	~~6.4755~~	~~6.4759~~	~~6.4764~~	~~6.4768~~	~~6.4773~~	~~6.4777~~	~~6.4781~~	~~6.4786~~	~~6.4790~~	~~6.4795~~
~~15~~	~~6.4799~~	~~6.4804~~	~~6.4809~~	~~6.4814~~	~~6.4818~~	~~6.4823~~	~~6.4828~~	~~6.4833~~	~~6.4838~~	~~6.4843~~	~~6.4847~~	~~6.4852~~
~~16~~	~~6.4857~~	~~6.4862~~	~~6.4867~~	~~6.4873~~	~~6.4878~~	~~6.4883~~	~~6.4888~~	~~6.4893~~	~~6.4898~~	~~6.4904~~	~~6.4909~~	~~6.4914~~
~~17~~	~~6.4919~~	~~6.4925~~	~~6.4930~~	~~6.4935~~	~~6.4941~~	~~6.4946~~	~~6.4952~~	~~6.4957~~	~~6.4963~~	~~6.4968~~	~~6.4974~~	~~6.4979~~
~~18~~	~~6.4985~~	~~6.4991~~	~~6.4997~~	~~6.5003~~	~~6.5009~~	~~6.5015~~	~~6.5021~~	~~6.5026~~	~~6.5032~~	~~6.5038~~	~~6.5044~~	~~6.5050~~
~~19~~	~~6.5056~~	~~6.5062~~	~~6.5069~~	~~6.5075~~	~~6.5081~~	~~6.5088~~	~~6.5094~~	~~6.5100~~	~~6.5107~~	~~6.5113~~	~~6.5119~~	~~6.5126~~
~~20~~	~~6.5132~~	~~6.5139~~	~~6.5146~~	~~6.5152~~	~~6.5159~~	~~6.5166~~	~~6.5173~~	~~6.5180~~	~~6.5187~~	~~6.5193~~	~~6.5200~~	~~6.5207~~
~~21~~	~~6.5214~~	~~6.5221~~	~~6.5229~~	~~6.5236~~	~~6.5243~~	~~6.5250~~	~~6.5258~~	~~6.5265~~	~~6.5272~~	~~6.5279~~	~~6.5287~~	~~6.5294~~
~~22~~	~~6.5301~~	~~6.5309~~	~~6.5317~~	~~6.5325~~	~~6.5332~~	~~6.5340~~	~~6.5348~~	~~6.5356~~	~~6.5364~~	~~6.5372~~	~~6.5379~~	~~6.5387~~
~~23~~	~~6.5395~~	~~6.5403~~	~~6.5412~~	~~6.5420~~	~~6.5429~~	~~6.5437~~	~~6.5446~~	~~6.5454~~	~~6.5462~~	~~6.5471~~	~~6.5479~~	~~6.5488~~
~~24~~	~~6.5496~~	~~6.5505~~	~~6.5514~~	~~6.5523~~	~~6.5532~~	~~6.5541~~	~~6.5550~~	~~6.5559~~	~~6.5568~~	~~6.5577~~	~~6.5586~~	~~6.5595~~
~~25~~	~~6.5604~~	~~6.5614~~	~~6.5623~~	~~6.5633~~	~~6.5643~~	~~6.5652~~	~~6.5662~~	~~6.5672~~	~~6.5681~~	~~6.5691~~	~~6.5701~~	~~6.5710~~
~~26~~	~~6.5720~~	~~6.5730~~	~~6.5741~~	~~6.5751~~	~~6.5762~~	~~6.5772~~	~~6.5783~~	~~6.5793~~	~~6.5803~~	~~6.5814~~	~~6.5824~~	~~6.5835~~
~~27~~	~~6.5845~~	~~6.5856~~	~~6.5867~~	~~6.5878~~	~~6.5889~~	~~6.5900~~	~~6.5912~~	~~6.5923~~	~~6.5934~~	~~6.5945~~	~~6.5956~~	~~6.5967~~
~~28~~	~~6.5978~~	~~6.5990~~	~~6.6002~~	~~6.6014~~	~~6.6026~~	~~6.6038~~	~~6.6050~~	~~6.6062~~	~~6.6074~~	~~6.6086~~	~~6.6098~~	~~6.6110~~
~~29~~	~~6.6122~~	~~6.6135~~	~~6.6148~~	~~6.6160~~	~~6.6173~~	~~6.6186~~	~~6.6199~~	~~6.6212~~	~~6.6225~~	~~6.6237~~	~~6.6250~~	~~6.6263~~
~~30~~	~~6.6276~~	~~6.6290~~	~~6.6304~~	~~6.6317~~	~~6.6331~~	~~6.6345~~	~~6.6359~~	~~6.6372~~	~~6.6386~~	~~6.6400~~	~~6.6414~~	~~6.6427~~
~~31~~	~~6.6441~~	~~6.6456~~	~~6.6471~~	~~6.6485~~	~~6.6500~~	~~6.6515~~	~~6.6530~~	~~6.6544~~	~~6.6559~~	~~6.6574~~	~~6.6589~~	~~6.6603~~
~~32~~	~~6.6618~~	~~6.6634~~	~~6.6650~~	~~6.6666~~	~~6.6681~~	~~6.6697~~	~~6.6713~~	~~6.6729~~	~~6.6745~~	~~6.6761~~	~~6.6776~~	~~6.6792~~
~~33~~	~~6.6808~~	~~6.6825~~	~~6.6842~~	~~6.6859~~	~~6.6876~~	~~6.6893~~	~~6.6910~~	~~6.6928~~	~~6.6945~~	~~6.6962~~	~~6.6979~~	~~6.6996~~

34	6.7013	6.7031	6.7050	6.7068	6.7086	6.7104	6.7123	6.7141	6.7159	6.7177	6.7196	6.7214
35	6.7232	6.7252	6.7271	6.7291	6.7310	6.7330	6.7350	6.7369	6.7389	6.7408	6.7428	6.7447
36	6.7467	6.7488	6.7509	6.7531	6.7552	6.7573	6.7594	6.7615	6.7636	6.7658	6.7679	6.7700
37	6.7721	6.7744	6.7766	6.7789	6.7812	6.7834	6.7857	6.7880	6.7902	6.7925	6.7948	6.7970
38	6.7993	6.8018	6.8042	6.8067	6.8091	6.8116	6.8140	6.8165	6.8189	6.8214	6.8238	6.8263
39	6.8287	6.8313	6.8340	6.8366	6.8392	6.8418	6.8445	6.8471	6.8497	6.8523	6.8550	6.8576
40	6.8602	6.8630	6.8658	6.8687	6.8715	6.8743	6.8771	6.8799	6.8827	6.8856	6.8884	6.8912
41	6.8940	6.8970	6.9001	6.9031	6.9061	6.9091	6.9122	6.9152	6.9182	6.9212	6.9243	6.9273
42	6.9303	6.9335	6.9368	6.9400	6.9433	6.9465	6.9498	6.9530	6.9562	6.9595	6.9627	6.9660
43	6.9692	6.9727	6.9761	6.9796	6.9831	6.9865	6.9900	6.9935	6.9969	7.0004	7.0039	7.0073
44	7.0108	7.0145	7.0182	7.0219	7.0256	7.0293	7.0330	7.0367	7.0404	7.0441	7.0478	7.0515
45	7.0552	7.0592	7.0631	7.0671	7.0710	7.0750	7.0790	7.0829	7.0869	7.0908	7.0948	7.0987
46	7.1027	7.1069	7.1111	7.1153	7.1196	7.1238	7.1280	7.1322	7.1364	7.1406	7.1449	7.1491
47	7.1533	7.1578	7.1623	7.1668	7.1713	7.1758	7.1802	7.1847	7.1892	7.1937	7.1982	7.2027
48	7.2072	7.2120	7.2168	7.2216	7.2264	7.2312	7.2360	7.2407	7.2455	7.2503	7.2551	7.2599
49	7.2647	7.2698	7.2749	7.2800	7.2851	7.2902	7.2954	7.3005	7.3056	7.3107	7.3158	7.3209
50	7.3260	7.3315	7.3369	7.3424	7.3478	7.3533	7.3588	7.3642	7.3697	7.3751	7.3806	7.3860
51	7.3915	7.3973	7.4032	7.4090	7.4148	7.4207	7.4265	7.4323	7.4382	7.4440	7.4498	7.4557
52	7.4615	7.4678	7.4740	7.4803	7.4865	7.4928	7.4990	7.5053	7.5116	7.5178	7.5241	7.5303
53	7.5366	7.5433	7.5500	7.5568	7.5635	7.5702	7.5769	7.5836	7.5903	7.5971	7.6038	7.6105
54	7.6172	7.6244	7.6317	7.6389	7.6461	7.6533	7.6606	7.6678	7.6750	7.6822	7.6895	7.6967
55	7.7039	7.7117	7.7195	7.7273	7.7351	7.7429	7.7507	7.7584	7.7662	7.7740	7.7818	7.7896
56	7.7974	7.8058	7.8142	7.8226	7.8310	7.8394	7.8479	7.8563	7.8647	7.8731	7.8815	7.8899
57	7.8983	7.9074	7.9165	7.9256	7.9346	7.9437	7.9528	7.9619	7.9710	7.9801	7.9891	7.9982
58	8.0073	8.0171	8.0269	8.0368	8.0466	8.0564	8.0662	8.0760	8.0858	8.0957	8.1055	8.1153
59	8.1251	8.1357	8.1463	8.1570	8.1676	8.1782	8.1888	8.1995	8.2101	8.2207	8.2313	8.2420
60	8.2526	8.2641	8.2756	8.2870	8.2985	8.3100	8.3215	8.3330	8.3445	8.3559	8.3674	8.3789
61	8.3904	8.4028	8.4152	8.4277	8.4401	8.4525	8.4649	8.4773	8.4897	8.5022	8.5146	8.5270
62	8.5394	8.5528	8.5663	8.5797	8.5931	8.6065	8.6200	8.6334	8.6468	8.6602	8.6736	8.6871

AGE	0 MO	1 MO	2 MO	3 MO	4 MO	5 MO	6 MO	7 MO	8 MO	9 MO	10 MO	11 MO
63	8.7005	8.7150	8.7295	8.7440	8.7585	8.7730	8.7874	8.8019	8.8164	8.8309	8.8454	8.8599
64	8.8744	8.8900	8.9057	8.9213	8.9369	8.9525	8.9682	8.9838	8.9994	9.0150	9.0307	9.0463
65	9.0619	9.0787	9.0956	9.1124	9.1292	9.1461	9.1629	9.1797	9.1966	9.2134	9.2302	9.2471
66	9.2639	9.2820	9.3001	9.3183	9.3364	9.3545	9.3726	9.3908	9.4089	9.4270	9.4451	9.4633
67	9.4814	9.5009	9.5204	9.5398	9.5593	9.5788	9.5983	9.6177	9.6372	9.6567	9.6762	9.6956
68	9.7151	9.7361	9.7570	9.7780	9.7989	9.8199	9.8408	9.8618	9.8827	9.9037	9.9246	9.9456
69	9.9665	9.9890	10.0115	10.0340	10.0566	10.0791	10.1016	10.1241	10.1466	10.1691	10.1917	10.2142
70	10.2367	10.2610	10.2852	10.3095	10.3337	10.3580	10.3822	10.4065	10.4307	10.4550	10.4792	10.5035
71	10.5277	10.5538	10.5800	10.6061	10.6322	10.6583	10.6845	10.7106	10.7367	10.7628	10.7890	10.8151
72	10.8412	10.8694	10.8975	10.9257	10.9539	10.9820	11.0102	11.0384	11.0665	11.0947	11.1229	11.1510
73	11.1792	11.2096	11.2399	11.2703	11.3006	11.3310	11.3614	11.3917	11.4221	11.4524	11.4828	11.5131
74	11.5435	11.5762	11.6088	11.6415	11.6742	11.7068	11.7395	11.7722	11.8048	11.8375	11.8702	11.9028
75	11.9355	11.9706	12.0056	12.0407	12.0758	12.1108	12.1459	12.1810	12.2160	12.2511	12.2862	12.3212
76	12.3563	12.3938	12.4314	12.4689	12.5064	12.5439	12.5815	12.6190	12.6565	12.6940	12.7316	12.7691
77	12.8066	12.8466	12.8867	12.9267	12.9667	13.0068	13.0468	13.0868	13.1269	13.1669	13.2069	13.2470
78	13.2870	13.3296	13.3723	13.4149	13.4575	13.5001	13.5427	13.5854	13.6280	13.6706	13.7132	13.7559
79	13.7985	13.8438	13.8891	13.9345	13.9798	14.0251	14.0704	14.1157	14.1610	14.2063	14.2517	14.2970
80	14.3423	14.3904	14.4386	14.4867	14.5348	14.5829	14.6311	14.6792	14.7273	14.7754	14.8236	14.8717
81	14.9198	14.9709	15.0220	15.0731	15.1242	15.1753	15.2264	15.2775	15.3286	15.3797	15.4308	15.4819
82	15.5330	15.5873	15.6416	15.6959	15.7502	15.8045	15.8588	15.9131	15.9674	16.0217	16.0760	16.1303
83	16.1846	16.2424	16.3002	16.3581	16.4159	16.4737	16.5315	16.5893	16.6471	16.7050	16.7628	16.8206
84	16.8784	16.9402	17.0020	17.0638	17.1255	17.1873	17.2491	17.3109	17.3727	17.4345	17.4962	17.5580
85	17.6198	17.6862	17.7526	17.8190	17.8854	17.9518	18.0182	18.0847	18.1511	18.2175	18.2839	18.3503
86	18.4167	18.4878	18.5590	18.6301	18.7013	18.7724	18.8436	18.9147	18.9859	19.0570	19.1282	19.1993
87	19.2705	19.3481	19.4257	19.5034	19.5810	19.6586	19.7362	19.8138	19.8914	19.9691	20.0467	20.1243
88	20.2019	20.2857	20.3695	20.4532	20.5370	20.6208	20.7046	20.7884	20.8722	20.9559	21.0397	21.1235
89	21.2073	21.2978	21.3883	21.4788	21.5692	21.6597	21.7502	21.8407	21.9312	22.0217	22.1121	22.2026
90	22.2931	22.3908	22.4886	22.5863	22.6841	22.7818	22.8796	22.9773	23.0750	23.1728	23.2705	23.3683
91	23.4660	23.5721	23.6782	23.7843	23.8903	23.9964	24.1025	24.2086	24.3147	24.4208	24.5268	24.6329
92	24.7390	24.8548	24.9706	25.0863	25.2021	25.3179	25.4336	25.5494	25.6652	25.7810	25.8967	26.0125
93	26.1283	26.2556	26.3829	26.5102	26.6375	26.7648	26.8921	27.0194	27.1467	27.2740	27.4013	27.5286
94	27.6559	27.7937	27.9315	28.0693	28.2072	28.3450	28.4828	28.6206	28.7584	28.8962	29.0341	29.1719
95	29.3097	29.4573	29.6050	29.7526	29.9003	30.0479	30.1956	30.3432	30.4909	30.6385	30.7862	30.9338
96	31.0815	31.2433	31.4051	31.5670	31.7288	31.8906	32.0524	32.2142	32.3760	32.5379	32.6997	32.8615
97	33.0233	33.2026	33.3820	33.5613	33.7407	33.9200	34.0993	34.2787	34.4580	34.6374	34.8167	34.9961
98	35.1754	35.3762	35.5770	35.7778	35.9786	36.1794	36.3802	36.5809	36.7817	36.9825	37.1833	37.3841
99	37.5849	37.8111	38.0374	38.2636	38.4898	38.7161	38.9423	39.1685	39.3948	39.6210	39.8472	40.0735

Exhibit B. **Early Retirement Reduction Factors**

Table 1. **Five Years of Service**

(Requirements: Five Years of Service)

Years	Months		Years	Months	
50	0	0.35000	54	0	0.55000
	1	0.35420		1	0.55420
	2	0.35830		2	0.55830
	3	0.36250		3	0.56250
	4	0.36670		4	0.56670
	5	0.37080		5	0.57080
	6	0.37500		6	0.57500
	7	0.37920		7	0.57920
	8	0.38330		8	0.58330
	9	0.38750		9	0.58750
	10	0.39170		10	0.59170
	11	0.39580		11	0.59580
51	0	0.40000	55	0	0.60000
	1	0.40420		1	0.60420
	2	0.40830		2	0.60830
	3	0.41250		3	0.61250
	4	0.41670		4	0.61670
	5	0.42080		5	0.62080
	6	0.42500		6	0.62500
	7	0.42920		7	0.62920
	8	0.43330		8	0.63330
	9	0.43750		9	0.63750
	10	0.44170		10	0.64170
	11	0.44580		11	0.64580
52	0	0.45000	56	0	0.65000
	1	0.45420		1	0.65420
	2	0.45830		2	0.65830
	3	0.46250		3	0.66250
	4	0.46670		4	0.66670
	5	0.47080		5	0.67080
	6	0.47500		6	0.67500
	7	0.47920		7	0.67920
	8	0.48330		8	0.68330
	9	0.48750		9	0.68750
	10	0.49170		10	0.69170
	11	0.49580		11	0.69580
53	0	0.50000	57	0	0.70000
	1	0.50420		1	0.70420
	2	0.50830		2	0.70830
	3	0.51250		3	0.71250
	4	0.51670		4	0.71670
	5	0.52080		5	0.72080
	6	0.52500		6	0.72500
	7	0.52920		7	0.72920
	8	0.53330		8	0.73330
	9	0.53750		9	0.73750
	10	0.54170		10	0.74170
	11	0.54580		11	0.74580

Years	Months		Years	Months	
58	0	0.75000	62	0	0.91000
	1	0.75420		1	0.91250
	2	0.75830		2	0.91500
	3	0.76250		3	0.91750
	4	0.76670		4	0.92000
	5	0.77080		5	0.92250
	6	0.77500		6	0.92500
	7	0.77920		7	0.92750
	8	0.78330		8	0.93000
	9	0.78750		9	0.93250
	10	0.79170		10	0.93500
	11	0.79580		11	0.93750
59	0	0.80000	63	0	0.94000
	1	0.80420		1	0.94250
	2	0.80830		2	0.94500
	3	0.81250		3	0.94750
	4	0.81670		4	0.95000
	5	0.82080		5	0.95250
	6	0.82500		6	0.95500
	7	0.82920		7	0.95750
	8	0.83330		8	0.96000
	9	0.83750		9	0.96250
	10	0.84170		10	0.96500
	11	0.84580		11	0.96750
60	0	0.85000	64	0	0.97000
	1	0.85250		1	0.97250
	2	0.85500		2	0.97500
	3	0.85750		3	0.97750
	4	0.86000		4	0.98000
	5	0.86250		5	0.98250
	6	0.86500		6	0.98500
	7	0.86750		7	0.98750
	8	0.87000		8	0.99000
	9	0.87250		9	0.99250
	10	0.87500		10	0.99500
	11	0.87750		11	0.99750
61	0	0.88000	65	0	1.00000
	1	0.88250		1	1.00000
	2	0.88500		2	1.00000
	3	0.88750		3	1.00000
	4	0.89000		4	1.00000
	5	0.89250		5	1.00000
	6	0.89500		6	1.00000
	7	0.89750		7	1.00000
	8	0.90000		8	1.00000
	9	0.90250		9	1.00000
	10	0.90500		10	1.00000
	11	0.90750		11	1.00000

Exhibit B. **Early Retirement Reduction Factors**

Table 2. **Ten Years of Service**

(Requirements: 10 Years of Service)

Years	Months		Years	Months	
50	0	0.44000	54	0	0.64000
	1	0.44420		1	0.64420
	2	0.44830		2	0.64830
	3	0.45250		3	0.65250
	4	0.45670		4	0.65670
	5	0.46080		5	0.66080
	6	0.46500		6	0.66500
	7	0.46920		7	0.66920
	8	0.47330		8	0.67330
	9	0.47750		9	0.67750
	10	0.48170		10	0.68170
	11	0.48580		11	0.68580
51	0	0.49000	55	0	0.69000
	1	0.49420		1	0.69420
	2	0.49830		2	0.69830
	3	0.50250		3	0.70250
	4	0.50670		4	0.70670
	5	0.51080		5	0.71080
	6	0.51500		6	0.71500
	7	0.51920		7	0.71920
	8	0.52330		8	0.72330
	9	0.52750		9	0.72750
	10	0.53170		10	0.73170
	11	0.53580		11	0.73580
52	0	0.54000	56	0	0.74000
	1	0.54420		1	0.74420
	2	0.54830		2	0.74830
	3	0.55250		3	0.75250
	4	0.55670		4	0.75670
	5	0.56080		5	0.76080
	6	0.56500		6	0.76500
	7	0.56920		7	0.76920
	8	0.57330		8	0.77330
	9	0.57750		9	0.77750
	10	0.58170		10	0.78170
	11	0.58580		11	0.78580
53	0	0.59000	57	0	0.79000
	1	0.59420		1	0.79420
	2	0.59830		2	0.79830
	3	0.60250		3	0.80250
	4	0.60670		4	0.80670
	5	0.61080		5	0.81080
	6	0.61500		6	0.81500
	7	0.61920		7	0.81920
	8	0.62330		8	0.82330
	9	0.62750		9	0.82750
	10	0.63170		10	0.83170
	11	0.63580		11	0.83580
58	0	0.84000	62	0	1.00000
	1	0.84420		1	1.00000
	2	0.84830		2	1.00000
	3	0.85250		3	1.00000
	4	0.85670		4	1.00000
	5	0.86080		5	1.00000
	6	0.86500		6	1.00000
	7	0.86920		7	1.00000

Years	Months		Years	Months	
	8	0.87330		8	1.00000
	9	0.87750		9	1.00000
	10	0.88170		10	1.00000
	11	0.88580		11	1.00000
59	0	0.89000	63	0	1.00000
	1	0.89420		1	1.00000
	2	0.89830		2	1.00000
	3	0.90250		3	1.00000
	4	0.90670		4	1.00000
	5	0.91080		5	1.00000
	6	0.91500		6	1.00000
	7	0.91920		7	1.00000
	8	0.92330		8	1.00000
	9	0.92750		9	1.00000
	10	0.93170		10	1.00000
	11	0.93580		11	1.00000
60	0	0.94000	64	0	1.00000
	1	0.94250		1	1.00000
	2	0.94500		2	1.00000
	3	0.94750		3	1.00000
	4	0.95000		4	1.00000
	5	0.95250		5	1.00000
	6	0.95500		6	1.00000
	7	0.95750		7	1.00000
	8	0.96000		8	1.00000
	9	0.96250		9	1.00000
	10	0.96500		10	1.00000
	11	0.96750		11	1.00000
61	0	0.97000	65	0	1.00000
	1	0.97250		1	1.00000
	2	0.97500		2	1.00000
	3	0.97750		3	1.00000
	4	0.98000		4	1.00000
	5	0.98250		5	1.00000
	6	0.98500		6	1.00000
	7	0.98750		7	1.00000
	8	0.99000		8	1.00000
	9	0.99250		9	1.00000
	10	0.99500		10	1.00000
	11	0.99750		11	1.00000

~~Exhibit B.~~ ~~Early Retirement Reduction Factors~~

~~Table 3.~~ ~~Age Plus Service ≥ 77 Points~~

~~(Requirements: Age + Service ≥ 77 points)~~

~~Years~~	~~Months~~	
~~77~~	~~0~~	~~0.91000~~
	~~1~~	~~0.91250~~
	~~2~~	~~0.91500~~
	~~3~~	~~0.91750~~
	~~4~~	~~0.92000~~
	~~5~~	~~0.92250~~
	~~6~~	~~0.92500~~
	~~7~~	~~0.92750~~
	~~8~~	~~0.93000~~
	~~9~~	~~0.93250~~
	~~10~~	~~0.93500~~
	~~11~~	~~0.93750~~
~~78~~	~~0~~	~~0.94000~~
	~~1~~	~~0.94250~~
	~~2~~	~~0.94500~~
	~~3~~	~~0.94750~~
	~~4~~	~~0.95000~~
	~~5~~	~~0.95250~~
	~~6~~	~~0.95500~~
	~~7~~	~~0.95750~~
	~~8~~	~~0.96000~~
	~~9~~	~~0.96250~~
	~~10~~	~~0.96500~~
	~~11~~	~~0.96750~~
~~79~~	~~0~~	~~0.97000~~
	~~1~~	~~0.97250~~
	~~2~~	~~0.97500~~
	~~3~~	~~0.97750~~
	~~4~~	~~0.98000~~
	~~5~~	~~0.98250~~
	~~6~~	~~0.98500~~
	~~7~~	~~0.98750~~
	~~8~~	~~0.99000~~
	~~9~~	~~0.99250~~
	~~10~~	~~0.99500~~
	~~11~~	~~0.99750~~
~~80~~	~~0~~	~~1.00000~~

Exhibit C.   5-, 10-, 15-Year Certain & Life Factors

ARIZONA STATE RETIREMENT SYSTEM
5, 10, 15, Year Certain & Life Factors
(Basis-50/50 Blend 1983 GAM, M(-1), F(No adj.), 8%)
(Effective 10/1/92)

Age	5 Year	10 Year	15 Year
47 - 0	0.99831	0.99338	0.98621
47 - 1	0.99829	0.99332	0.98609
47 - 2	0.99827	0.99326	0.98596
47 - 3	0.99825	0.99319	0.98584
47 - 4	0.99823	0.99313	0.98572
47 - 5	0.99821	0.99307	0.98560
47 - 6	0.99820	0.99300	0.98548
47 - 7	0.99818	0.99294	0.98535
47 - 8	0.99816	0.99288	0.98523
47 - 9	0.99814	0.99282	0.98511
47 -10	0.99812	0.99275	0.98499
47 -11	0.99810	0.99269	0.98486
48 - 0	0.99809	0.99263	0.98474
48 - 1	0.99807	0.99256	0.98461
48 - 2	0.99805	0.99249	0.98448
48 - 3	0.99803	0.99243	0.98434
48 - 4	0.99801	0.99236	0.98421
48 - 5	0.99799	0.99229	0.98408
48 - 6	0.99797	0.99222	0.98395
48 - 7	0.99795	0.99216	0.98381
48 - 8	0.99793	0.99209	0.98368
48 - 9	0.99791	0.99202	0.98355
48 -10	0.99789	0.99196	0.98342
48 -11	0.99787	0.99189	0.98328
49 - 0	0.99785	0.99182	0.98315
49 - 1	0.99783	0.99175	0.98301
49 - 2	0.99780	0.99168	0.98286
49 - 3	0.99778	0.99161	0.98272
49 - 4	0.99776	0.99153	0.98258
49 - 5	0.99774	0.99146	0.98243
49 - 6	0.99772	0.99139	0.98229
49 - 7	0.99770	0.99132	0.98214
49 - 8	0.99768	0.99125	0.98200
49 - 9	0.99766	0.99117	0.98186
49 -10	0.99764	0.99110	0.98171
49 -11	0.99762	0.99103	0.98157
50 - 0	0.99759	0.99096	0.98142
50 - 1	0.99757	0.99088	0.98127
50 - 2	0.99755	0.99080	0.98111
50 - 3	0.99753	0.99072	0.98095
50 - 4	0.99750	0.99065	0.98079
50 - 5	0.99748	0.99057	0.98064
50 - 6	0.99746	0.99049	0.98048
50 - 7	0.99744	0.99041	0.98032
50 - 8	0.99741	0.99034	0.98016
50 - 9	0.99739	0.99026	0.98001
50 -10	0.99737	0.99018	0.97985
50 -11	0.99735	0.99010	0.97969
51 - 0	0.99733	0.99003	0.97953
51 - 1	0.99730	0.98994	0.97936
51 - 2	0.99728	0.98986	0.97918
51 - 3	0.99725	0.98977	0.97901
51 - 4	0.99723	0.98969	0.97884
51 - 5	0.99720	0.98960	0.97866
51 - 6	0.99718	0.98952	0.97849
51 - 7	0.99716	0.98944	0.97831
51 - 8	0.99713	0.98935	0.97814

Age	5 Year	10 Year	15 Year
51 - 9	0.99711	0.98927	0.97796
51 - 10	0.99708	0.98918	0.97779
51 - 11	0.99706	0.98910	0.97762
52 - 0	0.99704	0.98901	0.97744
52 - 1	0.99701	0.98892	0.97725
52 - 2	0.99699	0.98883	0.97705
52 - 3	0.99696	0.98873	0.97686
52 - 4	0.99693	0.98864	0.97667
52 - 5	0.99691	0.98855	0.97647
52 - 6	0.99688	0.98846	0.97628
52 - 7	0.99686	0.98836	0.97608
52 - 8	0.99683	0.98827	0.97589
52 - 9	0.99680	0.98818	0.97570
52 - 10	0.99678	0.98808	0.97550
52 - 11	0.99675	0.98799	0.97531
53 - 0	0.99673	0.98790	0.97511
53 - 1	0.99670	0.98779	0.97490
53 - 2	0.99667	0.98769	0.97468
53 - 3	0.99664	0.98759	0.97446
53 - 4	0.99661	0.98749	0.97424
53 - 5	0.99658	0.98738	0.97403
53 - 6	0.99656	0.98728	0.97381
53 - 7	0.99653	0.98718	0.97359
53 - 8	0.99650	0.98707	0.97337
53 - 9	0.99647	0.98697	0.97316
53 - 10	0.99644	0.98687	0.97294
53 - 11	0.99641	0.98676	0.97272
54 - 0	0.99639	0.98666	0.97250
54 - 1	0.99635	0.98654	0.97226
54 - 2	0.99632	0.98643	0.97201
54 - 3	0.99629	0.98631	0.97177
54 - 4	0.99626	0.98620	0.97152
54 - 5	0.99623	0.98608	0.97128
54 - 6	0.99620	0.98596	0.97103
54 - 7	0.99617	0.98585	0.97079
54 - 8	0.99614	0.98573	0.97054
54 - 9	0.99611	0.98562	0.97030
54 - 10	0.99607	0.98550	0.97005
54 - 11	0.99604	0.98538	0.96981
55 - 0	0.99601	0.98527	0.96956
55 - 1	0.99598	0.98514	0.96928
55 - 2	0.99594	0.98501	0.96900
55 - 3	0.99591	0.98487	0.96873
55 - 4	0.99587	0.98474	0.96845
55 - 5	0.99584	0.98461	0.96817
55 - 6	0.99580	0.98448	0.96789
55 - 7	0.99577	0.98435	0.96761
55 - 8	0.99573	0.98422	0.96734
55 - 9	0.99570	0.98408	0.96706
55 - 10	0.99566	0.98395	0.96678
55 - 11	0.99563	0.98382	0.96650
56 - 0	0.99559	0.98369	0.96623
56 - 1	0.99555	0.98354	0.96591
56 - 2	0.99551	0.98339	0.96559
56 - 3	0.99547	0.98324	0.96528
56 - 4	0.99543	0.98309	0.96496
56 - 5	0.99539	0.98294	0.96465
56 - 6	0.99536	0.98279	0.96433
56 - 7	0.99532	0.98264	0.96401
56 - 8	0.99528	0.98249	0.96370
56 - 9	0.99524	0.98233	0.96338
56 - 10	0.99520	0.98218	0.96307
56 - 11	0.99516	0.98203	0.96275
57 - 0	0.99512	0.98188	0.96244

Age	5 Year	10 Year	15 Year
57 – 1	0.99507	0.98171	0.96208
57 – 2	0.99503	0.98154	0.96172
57 – 3	0.99498	0.98136	0.96136
57 – 4	0.99493	0.98119	0.96100
57 – 5	0.99489	0.98101	0.96064
57 – 6	0.99484	0.98084	0.96028
57 – 7	0.99480	0.98067	0.95992
57 – 8	0.99475	0.98049	0.95956
57 – 9	0.99471	0.98032	0.95920
57 – 10	0.99466	0.98015	0.95885
57 – 11	0.99461	0.97997	0.95849
58 – 0	0.99457	0.97980	0.95813
58 – 1	0.99452	0.97960	0.95772
58 – 2	0.99446	0.97940	0.95731
58 – 3	0.99441	0.97920	0.95690
58 – 4	0.99436	0.97900	0.95650
58 – 5	0.99430	0.97880	0.95609
58 – 6	0.99425	0.97860	0.95568
58 – 7	0.99420	0.97839	0.95527
58 – 8	0.99414	0.97819	0.95486
58 – 9	0.99409	0.97799	0.95445
58 – 10	0.99404	0.97779	0.95405
58 – 11	0.99399	0.97759	0.95364
59 – 0	0.99393	0.97739	0.95323
59 – 1	0.99387	0.97716	0.95277
59 – 2	0.99381	0.97693	0.95230
59 – 3	0.99375	0.97670	0.95184
59 – 4	0.99369	0.97647	0.95138
59 – 5	0.99362	0.97623	0.95092
59 – 6	0.99356	0.97600	0.95046
59 – 7	0.99350	0.97577	0.94999
59 – 8	0.99344	0.97554	0.94953
59 – 9	0.99338	0.97531	0.94907
59 – 10	0.99331	0.97508	0.94861
59 – 11	0.99325	0.97484	0.94814
60 – 0	0.99319	0.97461	0.94768
60 – 1	0.99312	0.97435	0.94716
60 – 2	0.99305	0.97408	0.94664
60 – 3	0.99297	0.97381	0.94612
60 – 4	0.99290	0.97354	0.94559
60 – 5	0.99283	0.97328	0.94507
60 – 6	0.99276	0.97301	0.94455
60 – 7	0.99269	0.97274	0.94403
60 – 8	0.99261	0.97248	0.94350
60 – 9	0.99254	0.97221	0.94298
60 – 10	0.99247	0.97194	0.94246
60 – 11	0.99240	0.97167	0.94194
61 – 0	0.99232	0.97141	0.94142
61 – 1	0.99224	0.97110	0.94083
61 – 2	0.99215	0.97079	0.94024
61 – 3	0.99207	0.97049	0.93965
61 – 4	0.99199	0.97018	0.93907
61 – 5	0.99190	0.96987	0.93848
61 – 6	0.99182	0.96957	0.93789
61 – 7	0.99173	0.96926	0.93730
61 – 8	0.99165	0.96895	0.93671
61 – 9	0.99156	0.96865	0.93613
61 – 10	0.99148	0.96834	0.93554
61 – 11	0.99139	0.96803	0.93495
62 – 0	0.99131	0.96773	0.93436
62 – 1	0.99121	0.96738	0.93371
62 – 2	0.99111	0.96703	0.93305
62 – 3	0.99101	0.96667	0.93239
62 – 4	0.99091	0.96632	0.93173

Age	5 Year	10 Year	15 Year
62 - 5	0.99081	0.96597	0.93107
62 - 6	0.99072	0.96562	0.93041
62 - 7	0.99062	0.96527	0.92975
62 - 8	0.99052	0.96492	0.92909
62 - 9	0.99042	0.96457	0.92844
62 -10	0.99032	0.96422	0.92778
62 -11	0.99022	0.96387	0.92712
63 - 0	0.99012	0.96352	0.92646
63 - 1	0.99001	0.96312	0.92572
63 - 2	0.98989	0.96272	0.92499
63 - 3	0.98978	0.96232	0.92425
63 - 4	0.98966	0.96192	0.92352
63 - 5	0.98955	0.96152	0.92279
63 - 6	0.98943	0.96112	0.92205
63 - 7	0.98931	0.96072	0.92132
63 - 8	0.98920	0.96033	0.92058
63 - 9	0.98908	0.95993	0.91985
63 -10	0.98897	0.95953	0.91911
63 -11	0.98885	0.95913	0.91838
64 - 0	0.98874	0.95873	0.91764
64 - 1	0.98860	0.95828	0.91683
64 - 2	0.98847	0.95783	0.91601
64 - 3	0.98834	0.95738	0.91520
64 - 4	0.98820	0.95692	0.91438
64 - 5	0.98807	0.95647	0.91357
64 - 6	0.98794	0.95602	0.91275
64 - 7	0.98780	0.95557	0.91194
64 - 8	0.98767	0.95512	0.91112
64 - 9	0.98754	0.95467	0.91031
64 -10	0.98740	0.95422	0.90949
64 -11	0.98727	0.95376	0.90868
65 - 0	0.98714	0.95331	0.90786
65 - 1	0.98698	0.95280	0.90696
65 - 2	0.98683	0.95230	0.90606
65 - 3	0.98667	0.95179	0.90517
65 - 4	0.98652	0.95128	0.90427
65 - 5	0.98637	0.95077	0.90337
65 - 6	0.98621	0.95026	0.90247
65 - 7	0.98606	0.94976	0.90157
65 - 8	0.98590	0.94925	0.90067
65 - 9	0.98575	0.94874	0.89977
65 -10	0.98560	0.94823	0.89887
65 -11	0.98544	0.94772	0.89797
66 - 0	0.98529	0.94722	0.89708
66 - 1	0.98511	0.94665	0.89609
66 - 2	0.98494	0.94608	0.89510
66 - 3	0.98476	0.94551	0.89412
66 - 4	0.98459	0.94494	0.89313
66 - 5	0.98441	0.94437	0.89215
66 - 6	0.98424	0.94380	0.89116
66 - 7	0.98406	0.94323	0.89018
66 - 8	0.98388	0.94266	0.88919
66 - 9	0.98371	0.94209	0.88821
66 -10	0.98353	0.94152	0.88722
66 -11	0.98336	0.94096	0.88624
67 - 0	0.98318	0.94039	0.88525
67 - 1	0.98298	0.93975	0.88418
67 - 2	0.98278	0.93911	0.88310
67 - 3	0.98258	0.93848	0.88203
67 - 4	0.98239	0.93784	0.88095
67 - 5	0.98219	0.93721	0.87988
67 - 6	0.98199	0.93657	0.87881
67 - 7	0.98179	0.93594	0.87773
67 - 8	0.98159	0.93530	0.87666

Age	5 Year	10 Year	15 Year
67 – 9	0.98139	0.93467	0.87558
67 – 10	0.98119	0.93403	0.87451
67 – 11	0.98099	0.93339	0.87344
68 – 0	0.98079	0.93276	0.87236
68 – 1	0.98057	0.93205	0.87120
68 – 2	0.98034	0.93134	0.87003
68 – 3	0.98012	0.93063	0.86887
68 – 4	0.97989	0.92993	0.86770
68 – 5	0.97966	0.92922	0.86654
68 – 6	0.97944	0.92851	0.86537
68 – 7	0.97921	0.92780	0.86421
68 – 8	0.97899	0.92709	0.86304
68 – 9	0.97876	0.92639	0.86188
68 – 10	0.97854	0.92568	0.86072
68 – 11	0.97831	0.92497	0.85955
69 – 0	0.97809	0.92426	0.85839
69 – 1	0.97783	0.92348	0.85713
69 – 2	0.97758	0.92269	0.85587
69 – 3	0.97732	0.92190	0.85462
69 – 4	0.97707	0.92111	0.85336
69 – 5	0.97681	0.92033	0.85210
69 – 6	0.97656	0.91954	0.85085
69 – 7	0.97630	0.91875	0.84959
69 – 8	0.97605	0.91796	0.84833
69 – 9	0.97579	0.91718	0.84708
69 – 10	0.97554	0.91639	0.84582
69 – 11	0.97528	0.91560	0.84456
70 – 0	0.97503	0.91481	0.84331
70 – 1	0.97474	0.91394	0.84195
70 – 2	0.97445	0.91306	0.84060
70 – 3	0.97416	0.91219	0.83925
70 – 4	0.97387	0.91132	0.83790
70 – 5	0.97358	0.91044	0.83655
70 – 6	0.97329	0.90957	0.83520
70 – 7	0.97300	0.90869	0.83385
70 – 8	0.97271	0.90782	0.83250
70 – 9	0.97242	0.90694	0.83115
70 – 10	0.97213	0.90607	0.82980
70 – 11	0.97184	0.90519	0.82845
71 – 0	0.97155	0.90432	0.82710
71 – 1	0.97122	0.90335	0.82566
71 – 2	0.97089	0.90238	0.82421
71 – 3	0.97056	0.90141	0.82277
71 – 4	0.97023	0.90044	0.82132
71 – 5	0.96990	0.89947	0.81988
71 – 6	0.96957	0.89850	0.81854
71 – 7	0.96923	0.89753	0.81699
71 – 8	0.96890	0.89656	0.81555
71 – 9	0.96857	0.89559	0.81410
71 – 10	0.96824	0.89462	0.81266
71 – 11	0.96791	0.89365	0.81121
72 – 0	0.96758	0.89268	0.80977
72 – 1	0.96720	0.89161	0.80823
72 – 2	0.96682	0.89054	0.80670
72 – 3	0.96644	0.88947	0.80516
72 – 4	0.96606	0.88840	0.80363
72 – 5	0.96568	0.88732	0.80209
72 – 6	0.96530	0.88625	0.80055
72 – 7	0.96492	0.88518	0.79902
72 – 8	0.96454	0.88411	0.79748
72 – 9	0.96416	0.88304	0.79595
72 – 10	0.96378	0.88197	0.79441
72 – 11	0.96340	0.88090	0.79287
73 – 0	0.96302	0.87983	0.79134

Age	5 Year	10 Year	15 Year
73 – 1	0.96259	0.87865	0.78971
73 – 2	0.96215	0.87747	0.78809
73 – 3	0.96172	0.87630	0.78647
73 – 4	0.96128	0.87512	0.78485
73 – 5	0.96085	0.87395	0.78322
73 – 6	0.96041	0.87277	0.78160
73 – 7	0.95998	0.87160	0.77998
73 – 8	0.95954	0.87042	0.77836
73 – 9	0.95910	0.86924	0.77673
73 – 10	0.95867	0.86807	0.77511
73 – 11	0.95823	0.86689	0.77349
74 – 0	0.95780	0.86572	0.77187
74 – 1	0.95730	0.86444	0.77017
74 – 2	0.95681	0.86316	0.76847
74 – 3	0.95631	0.86188	0.76677
74 – 4	0.95581	0.86060	0.76507
74 – 5	0.95532	0.85932	0.76336
74 – 6	0.95482	0.85804	0.76166
74 – 7	0.95432	0.85676	0.75996
74 – 8	0.95382	0.85548	0.75826
74 – 9	0.95333	0.85420	0.75656
74 – 10	0.95283	0.85293	0.75486
74 – 11	0.95233	0.85165	0.75316
75 – 0	0.95184	0.85037	0.75146
75 – 1	0.95128	0.84899	0.74970
75 – 2	0.95071	0.84761	0.74793
75 – 3	0.95015	0.84623	0.74616
75 – 4	0.94959	0.84485	0.74440
75 – 5	0.94903	0.84348	0.74263
75 – 6	0.94846	0.84210	0.74086
75 – 7	0.94790	0.84072	0.73910
75 – 8	0.94734	0.83934	0.73733
75 – 9	0.94678	0.83796	0.73556
75 – 10	0.94621	0.83658	0.73380
75 – 11	0.94565	0.83521	0.73203
76 – 0	0.94509	0.83383	0.73026
76 – 1	0.94446	0.83236	0.72844
76 – 2	0.94383	0.83089	0.72663
76 – 3	0.94320	0.82942	0.72481
76 – 4	0.94257	0.82795	0.72299
76 – 5	0.94194	0.82648	0.72117
76 – 6	0.94131	0.82501	0.71935
76 – 7	0.94068	0.82355	0.71753
76 – 8	0.94005	0.82208	0.71571
76 – 9	0.93942	0.82061	0.71389
76 – 10	0.93879	0.81914	0.71208
76 – 11	0.93816	0.81767	0.71026
77 – 0	0.93753	0.81620	0.70844
77 – 1	0.93683	0.81465	0.70658
77 – 2	0.93613	0.81310	0.70472
77 – 3	0.93543	0.81155	0.70287
77 – 4	0.93473	0.81000	0.70101
77 – 5	0.93403	0.80845	0.69915
77 – 6	0.93333	0.80690	0.69730
77 – 7	0.93264	0.80535	0.69544
77 – 8	0.93194	0.80380	0.69358
77 – 9	0.93124	0.80225	0.69173
77 – 10	0.93054	0.80070	0.68987
77 – 11	0.92984	0.79915	0.68801
78 – 0	0.92914	0.79760	0.68615
78 – 1	0.92837	0.79597	0.68427
78 – 2	0.92760	0.79435	0.68239
78 – 3	0.92683	0.79273	0.68051
78 – 4	0.92606	0.79111	0.67862

Age	5 Year	10 Year	15 Year
78 – 5	0.92529	0.78948	0.67674
78 – 6	0.92453	0.78786	0.67486
78 – 7	0.92376	0.78624	0.67298
78 – 8	0.92299	0.78462	0.67109
78 – 9	0.92222	0.78299	0.66921
78 – 10	0.92145	0.78137	0.66733
78 – 11	0.92068	0.77975	0.66545
79 – 0	0.91991	0.77813	0.66357
79 – 1	0.91907	0.77644	0.66167
79 – 2	0.91823	0.77476	0.65977
79 – 3	0.91739	0.77307	0.65788
79 – 4	0.91655	0.77138	0.65598
79 – 5	0.91571	0.76970	0.65408
79 – 6	0.91488	0.76801	0.65219
79 – 7	0.91404	0.76633	0.65029
79 – 8	0.91320	0.76464	0.64839
79 – 9	0.91236	0.76295	0.64650
79 – 10	0.91152	0.76127	0.64460
79 – 11	0.91068	0.75958	0.64270
80 – 0	0.90984	0.75790	0.64081
80 – 1	0.90893	0.75616	0.63891
80 – 2	0.90802	0.75441	0.63701
80 – 3	0.90711	0.75267	0.63510
80 – 4	0.90620	0.75093	0.63320
80 – 5	0.90529	0.74919	0.63130
80 – 6	0.90438	0.74745	0.62940
80 – 7	0.90347	0.74571	0.62750
80 – 8	0.90256	0.74397	0.62560
80 – 9	0.90165	0.74222	0.62370
80 – 10	0.90074	0.74048	0.62180
80 – 11	0.89983	0.73874	0.61990
81 – 0	0.89892	0.73700	0.61800
81 – 1	0.89794	0.73521	0.61610
81 – 2	0.89696	0.73342	0.61420
81 – 3	0.89598	0.73163	0.61230
81 – 4	0.89500	0.72984	0.61040
81 – 5	0.89402	0.72805	0.60851
81 – 6	0.89305	0.72626	0.60661
81 – 7	0.89207	0.72447	0.60471
81 – 8	0.89109	0.72268	0.60281
81 – 9	0.89011	0.72089	0.60092
81 – 10	0.88913	0.71910	0.59902
81 – 11	0.88815	0.71731	0.59712
82 – 0	0.88717	0.71552	0.59522
82 – 1	0.88611	0.71368	0.59333
82 – 2	0.88506	0.71185	0.59145
82 – 3	0.88401	0.71002	0.58956
82 – 4	0.88296	0.70818	0.58767
82 – 5	0.88191	0.70635	0.58578
82 – 6	0.88086	0.70452	0.58389
82 – 7	0.87980	0.70268	0.58200
82 – 8	0.87875	0.70085	0.58012
82 – 9	0.87770	0.69902	0.57823
82 – 10	0.87665	0.69718	0.57634
82 – 11	0.87560	0.69535	0.57445
83 – 0	0.87455	0.69352	0.57256
83 – 1	0.87342	0.69164	0.57069
83 – 2	0.87229	0.68977	0.56881
83 – 3	0.87116	0.68790	0.56693
83 – 4	0.87003	0.68602	0.56506
83 – 5	0.86890	0.68415	0.56318
83 – 6	0.86777	0.68228	0.56131
83 – 7	0.86665	0.68040	0.55943
83 – 8	0.86552	0.67853	0.55756

Age	5 Year	10 Year	15 Year
83 - 9	0.86439	0.67665	0.55568
83 - 10	0.86326	0.67478	0.55380
83 - 11	0.86213	0.67291	0.55193
84 - 0	0.86100	0.67103	0.55005
84 - 1	0.85979	0.66912	0.54819
84 - 2	0.85858	0.66721	0.54633
84 - 3	0.85737	0.66529	0.54446
84 - 4	0.85616	0.66338	0.54260
84 - 5	0.85495	0.66147	0.54074
84 - 6	0.85374	0.65955	0.53888
84 - 7	0.85253	0.65764	0.53701
84 - 8	0.85132	0.65573	0.53515
84 - 9	0.85011	0.65381	0.53329
84 - 10	0.84890	0.65190	0.53142
84 - 11	0.84769	0.64999	0.52956
85 - 0	0.84649	0.64807	0.52770
85 - 1	0.84518	0.64612	0.52585
85 - 2	0.84387	0.64416	0.52399
85 - 3	0.84256	0.64220	0.52214
85 - 4	0.84125	0.64025	0.52029
85 - 5	0.83994	0.63829	0.51843
85 - 6	0.83863	0.63633	0.51658
85 - 7	0.83732	0.63438	0.51473
85 - 8	0.83601	0.63242	0.51288
85 - 9	0.83470	0.63046	0.51102
85 - 10	0.83339	0.62851	0.50917
85 - 11	0.83208	0.62655	0.50732
86 - 0	0.83078	0.62459	0.50547
86 - 1	0.82936	0.62260	0.50363
86 - 2	0.82795	0.62061	0.50179
86 - 3	0.82654	0.61861	0.49995
86 - 4	0.82512	0.61662	0.49811
86 - 5	0.82371	0.61463	0.49627
86 - 6	0.82230	0.61263	0.49444
86 - 7	0.82089	0.61064	0.49260
86 - 8	0.81947	0.60865	0.49076
86 - 9	0.81806	0.60665	0.48892
86 - 10	0.81665	0.60466	0.48708
86 - 11	0.81524	0.60267	0.48525
87 - 0	0.81382	0.60067	0.48341
87 - 1	0.81230	0.59864	0.48158
87 - 2	0.81077	0.59662	0.47976
87 - 3	0.80925	0.59459	0.47794
87 - 4	0.80772	0.59256	0.47612
87 - 5	0.80620	0.59054	0.47429
87 - 6	0.80467	0.58851	0.47247
87 - 7	0.80314	0.58648	0.47065
87 - 8	0.80162	0.58446	0.46882
87 - 9	0.80009	0.58243	0.46700
87 - 10	0.79857	0.58040	0.46518
87 - 11	0.79704	0.57837	0.46335
88 - 0	0.79552	0.57635	0.46153
88 - 1	0.79387	0.57429	0.45973
88 - 2	0.79223	0.57224	0.45792
88 - 3	0.79058	0.57019	0.45612
88 - 4	0.78894	0.56813	0.45431
88 - 5	0.78730	0.56608	0.45250
88 - 6	0.78565	0.56402	0.45070
88 - 7	0.78401	0.56197	0.44889
88 - 8	0.78237	0.55992	0.44709
88 - 9	0.78072	0.55786	0.44528
88 - 10	0.77908	0.55581	0.44348
88 - 11	0.77743	0.55375	0.44167
89 - 0	0.77579	0.55170	0.43987

Age	5 Year	10 Year	15 Year
89 - 1	0.77404	0.54964	0.43809
89 - 2	0.77229	0.54758	0.43632
89 - 3	0.77054	0.54552	0.43455
89 - 4	0.76879	0.54346	0.43277
89 - 5	0.76704	0.54140	0.43100
89 - 6	0.76530	0.53935	0.42923
89 - 7	0.76355	0.53729	0.42745
89 - 8	0.76180	0.53523	0.42568
89 - 9	0.76005	0.53317	0.42390
89 - 10	0.75830	0.53111	0.42213
89 - 11	0.75655	0.52905	0.42036
90 - 0	0.75480	0.52699	0.41858
90 - 1	0.75295	0.52494	0.41685
90 - 2	0.75110	0.52289	0.41511
90 - 3	0.74924	0.52084	0.41338
90 - 4	0.74739	0.51878	0.41164
90 - 5	0.74554	0.51673	0.40990
90 - 6	0.74369	0.51468	0.40817
90 - 7	0.74183	0.51263	0.40643
90 - 8	0.73998	0.51057	0.40469
90 - 9	0.73813	0.50852	0.40296
90 - 10	0.73628	0.50647	0.40122
90 - 11	0.73442	0.50442	0.39949
91 - 0	0.73257	0.50237	0.39775
91 - 1	0.73072	0.50031	0.39601
91 - 2	0.72886	0.49826	0.39428
91 - 3	0.72701	0.49621	0.39254
91 - 4	0.72516	0.49416	0.39081
91 - 5	0.72331	0.49210	0.38907
91 - 6	0.72145	0.49005	0.38733
91 - 7	0.71960	0.48800	0.38560
91 - 8	0.71775	0.48595	0.38386
91 - 9	0.71590	0.48389	0.38212
91 - 10	0.71404	0.48184	0.38039
91 - 11	0.71219	0.47979	0.37865
92 - 0	0.70901	0.47784	0.37733
92 - 1	0.70796	0.47601	0.37544
92 - 2	0.70690	0.47418	0.37355
92 - 3	0.70585	0.47234	0.37166
92 - 4	0.70480	0.47051	0.36978
92 - 5	0.70375	0.46867	0.36789
92 - 6	0.70270	0.46684	0.36600
92 - 7	0.70165	0.46501	0.36411
92 - 8	0.70059	0.46317	0.36222
92 - 9	0.69954	0.46134	0.36033
92 - 10	0.69849	0.45951	0.35845
92 - 11	0.69744	0.45767	0.35656
93 - 0	0.68407	0.45344	0.35730
93 - 1	0.68294	0.45156	0.35542
93 - 2	0.68181	0.44969	0.35354
93 - 3	0.68068	0.44782	0.35167
93 - 4	0.67955	0.44594	0.34979
93 - 5	0.67842	0.44407	0.34792
93 - 6	0.67729	0.44220	0.34604
93 - 7	0.67617	0.44032	0.34417
93 - 8	0.67504	0.43845	0.34229
93 - 9	0.67391	0.43658	0.34041
93 - 10	0.67278	0.43470	0.33854
93 - 11	0.67165	0.43283	0.33666
94 - 0	0.65767	0.42913	0.33757
94 - 1	0.65646	0.42721	0.33571
94 - 2	0.65525	0.42530	0.33385
94 - 3	0.65404	0.42339	0.33198
94 - 4	0.65283	0.42147	0.33012

~~Age~~	~~5 Year~~	~~10 Year~~	~~15 Year~~
~~94 - 5~~	~~0.65162~~	~~0.41956~~	~~0.32826~~
~~94 - 6~~	~~0.65041~~	~~0.41765~~	~~0.32640~~
~~94 - 7~~	~~0.64920~~	~~0.41573~~	~~0.32453~~
~~94 - 8~~	~~0.64799~~	~~0.41382~~	~~0.32267~~
~~94 - 9~~	~~0.64678~~	~~0.41191~~	~~0.32081~~
~~94 - 10~~	~~0.64557~~	~~0.40999~~	~~0.31894~~
~~94 - 11~~	~~0.64436~~	~~0.40808~~	~~0.31708~~
~~95 - 0~~	~~0.63055~~	~~0.40543~~	~~0.31852~~
~~95 - 1~~	~~0.62924~~	~~0.40347~~	~~0.31667~~
~~95 - 2~~	~~0.62793~~	~~0.40152~~	~~0.31482~~
~~95 - 3~~	~~0.62662~~	~~0.39956~~	~~0.31296~~
~~95 - 4~~	~~0.62531~~	~~0.39760~~	~~0.31111~~
~~95 - 5~~	~~0.62401~~	~~0.39565~~	~~0.30926~~
~~95 - 6~~	~~0.62270~~	~~0.39369~~	~~0.30741~~
~~95 - 7~~	~~0.62139~~	~~0.39173~~	~~0.30555~~
~~95 - 8~~	~~0.62008~~	~~0.38978~~	~~0.30370~~
~~95 - 9~~	~~0.61877~~	~~0.38782~~	~~0.30185~~
~~95 - 10~~	~~0.61746~~	~~0.38586~~	~~0.29999~~
~~95 - 11~~	~~0.61615~~	~~0.38391~~	~~0.29814~~
~~96 - 0~~	~~0.60326~~	~~0.38267~~	~~0.30036~~
~~96 - 1~~	~~0.60184~~	~~0.38067~~	~~0.29853~~
~~96 - 2~~	~~0.60043~~	~~0.37868~~	~~0.29669~~
~~96 - 3~~	~~0.59902~~	~~0.37669~~	~~0.29485~~
~~96 - 4~~	~~0.59761~~	~~0.37469~~	~~0.29301~~
~~96 - 5~~	~~0.59619~~	~~0.37270~~	~~0.29117~~
~~96 - 6~~	~~0.59478~~	~~0.37071~~	~~0.28934~~
~~96 - 7~~	~~0.59337~~	~~0.36871~~	~~0.28750~~
~~96 - 8~~	~~0.59196~~	~~0.36672~~	~~0.28566~~
~~96 - 9~~	~~0.59054~~	~~0.36473~~	~~0.28382~~
~~96 - 10~~	~~0.58913~~	~~0.36273~~	~~0.28198~~
~~96 - 11~~	~~0.58772~~	~~0.36074~~	~~0.28015~~
~~97 - 0~~	~~0.57522~~	~~0.36039~~	~~0.28270~~
~~97 - 1~~	~~0.57370~~	~~0.35836~~	~~0.28088~~
~~97 - 2~~	~~0.57217~~	~~0.35633~~	~~0.27905~~
~~97 - 3~~	~~0.57064~~	~~0.35431~~	~~0.27723~~
~~97 - 4~~	~~0.56912~~	~~0.35228~~	~~0.27541~~
~~97 - 5~~	~~0.56759~~	~~0.35025~~	~~0.27358~~
~~97 - 6~~	~~0.56607~~	~~0.34823~~	~~0.27176~~
~~97 - 7~~	~~0.56454~~	~~0.34620~~	~~0.26994~~
~~97 - 8~~	~~0.56302~~	~~0.34417~~	~~0.26812~~
~~97 - 9~~	~~0.56149~~	~~0.34214~~	~~0.26629~~
~~97 - 10~~	~~0.55996~~	~~0.34012~~	~~0.26447~~
~~97 - 11~~	~~0.55844~~	~~0.33809~~	~~0.26265~~
~~98 - 0~~	~~0.54632~~	~~0.33847~~	~~0.26540~~
~~98 - 1~~	~~0.54467~~	~~0.33641~~	~~0.26359~~
~~98 - 2~~	~~0.54303~~	~~0.33436~~	~~0.26179~~
~~98 - 3~~	~~0.54139~~	~~0.33230~~	~~0.25998~~
~~98 - 4~~	~~0.53974~~	~~0.33025~~	~~0.25818~~
~~98 - 5~~	~~0.53810~~	~~0.32820~~	~~0.25637~~
~~98 - 6~~	~~0.53645~~	~~0.32614~~	~~0.25457~~
~~98 - 7~~	~~0.53481~~	~~0.32409~~	~~0.25276~~
~~98 - 8~~	~~0.53317~~	~~0.32203~~	~~0.25096~~
~~98 - 9~~	~~0.53152~~	~~0.31998~~	~~0.24915~~
~~98 - 10~~	~~0.52988~~	~~0.31793~~	~~0.24735~~
~~98 - 11~~	~~0.52823~~	~~0.31587~~	~~0.24554~~
~~99 - 0~~	~~0.51651~~	~~0.31683~~	~~0.24838~~
~~99 - 1~~	~~0.51476~~	~~0.31477~~	~~0.24661~~
~~99 - 2~~	~~0.51301~~	~~0.31271~~	~~0.24483~~
~~99 - 3~~	~~0.51126~~	~~0.31066~~	~~0.24306~~
~~99 - 4~~	~~0.50951~~	~~0.30860~~	~~0.24129~~
~~99 - 5~~	~~0.50776~~	~~0.30654~~	~~0.23951~~
~~99 - 6~~	~~0.50601~~	~~0.30448~~	~~0.23774~~
~~99 - 7~~	~~0.50426~~	~~0.30242~~	~~0.23596~~
~~99 - 8~~	~~0.50251~~	~~0.30036~~	~~0.23419~~

Age	5 Year	10 Year	15 Year
99 - 9	0.50077	0.29830	0.23242
99 -10	0.49902	0.29624	0.23064
99 -11	0.49727	0.29418	0.22887
100 - 0	0.48592	0.29548	0.23164

Exhibit D. **Joint and 50% Contingent Factors with Pop-Up**

Table 1. **Ages 45 - 54**

(Basis: 50/50 Blend 1983GAM, M(-13, F(No adj))
Effective 10/1/92

AGE OF PARTICIPANT

Age of Joint Annuitant	45	46	47	48	49	50	51	52	53	54
15	0.9552	0.9520	0.9485	0.9448	0.9409	0.9368	0.9324	0.9278	0.9228	0.9176
16	0.9555	0.9523	0.9488	0.9451	0.9412	0.9371	0.9327	0.9281	0.9232	0.9179
17	0.9559	0.9526	0.9491	0.9454	0.9415	0.9374	0.9331	0.9284	0.9235	0.9183
18	0.9562	0.9529	0.9495	0.9458	0.9419	0.9378	0.9334	0.9288	0.9239	0.9187
19	0.9565	0.9533	0.9498	0.9462	0.9423	0.9382	0.9338	0.9292	0.9243	0.9191
20	0.9569	0.9537	0.9502	0.9466	0.9427	0.9386	0.9342	0.9296	0.9247	0.9195
21	0.9573	0.9541	0.9506	0.9470	0.9431	0.9390	0.9347	0.9301	0.9252	0.9200
22	0.9577	0.9545	0.9510	0.9474	0.9436	0.9395	0.9352	0.9306	0.9257	0.9205
23	0.9581	0.9549	0.9515	0.9479	0.9440	0.9400	0.9356	0.9311	0.9262	0.9210
24	0.9586	0.9554	0.9520	0.9484	0.9445	0.9405	0.9362	0.9316	0.9267	0.9216
25	0.9591	0.9559	0.9525	0.9489	0.9451	0.9410	0.9367	0.9321	0.9273	0.9221
26	0.9596	0.9564	0.9530	0.9494	0.9456	0.9416	0.9373	0.9327	0.9279	0.9227
27	0.9601	0.9569	0.9535	0.9500	0.9462	0.9422	0.9379	0.9334	0.9285	0.9234
28	0.9606	0.9575	0.9541	0.9506	0.9468	0.9428	0.9385	0.9340	0.9292	0.9241
29	0.9612	0.9580	0.9547	0.9512	0.9474	0.9434	0.9392	0.9347	0.9299	0.9248
30	0.9618	0.9586	0.9553	0.9518	0.9481	0.9441	0.9399	0.9354	0.9306	0.9255
31	0.9624	0.9593	0.9560	0.9525	0.9488	0.9448	0.9406	0.9362	0.9314	0.9263
32	0.9630	0.9599	0.9567	0.9532	0.9495	0.9456	0.9414	0.9370	0.9322	0.9272
33	0.9636	0.9606	0.9574	0.953g	0.9503	0.9464	0.9422	0.9378	0.9331	0.9280
34	0.9643	0.9613	0.9581	0.9547	0.9510	0.9472	0.9430	0.9386	0.9339	0.9289
35	0.9650	0.9620	0.9588	0.9554	0.9518	0.9480	0.9439	0.9395	0.9349	0.9299
36	0.9657	0.9627	0.9596	0.9563	0.9527	0.9489	0.9448	0.9405	0.9358	0.9309
37	0.9664	0.9635	0.9604	0.9571	0.9535	0.9498	0.9457	0.9414	0.9368	0.9319
38	0.9672	0.9643	0.9612	0.9579	0.9544	0.9507	0.9467	0.9424	0.9379	0.9330
39	0.9679	0.9651	0.9620	0.9588	0.9553	0.9516	0.9477	0.9435	0.9390	0.9341
40	0.9687	0.9659	0.9629	0.9597	0.9563	0.9526	0.9487	0.9445	0.9401	0.9353
41	0.9695	0.9667	0.9638	0.9606	0.9572	0.9536	0.9498	0.9456	0.9412	0.9365
42	0.9702	0.9675	0.9647	0.9616	0.9582	0.9547	0.9509	0.9468	0.9424	0.9377
43	0.9710	0.9684	0.9656	0.9625	0.9592	0.9557	0.9520	0.9479	0.9436	0.9390
44	0.9718	0.9693	0.9665	0.9635	0.9603	0.9568	0.9531	0.9491	0.9449	0.9403
45	0.9727	0.9701	0.9674	0.9644	0.9613	0.9579	0.9543	0.9503	0.9461	0.9416
46	0.9735	0.9710	0.9683	0.9654	0.9623	0.9590	0.9554	0.9516	0.9474	0.9430
47	0.9743	0.9719	0.9692	0.9664	0.9634	0.9601	0.9566	0.9528	0.9488	0.9444
48	0.9751	0.9727	0.9702	0.9674	0.9645	0.9613	0.9578	0.9541	0.9501	0.9458
49	0.9759	0.9736	0.9711	0.9684	0.9655	0.9624	0.9590	0.9554	0.9515	0.9472
50	0.9767	0.9745	0.9720	0.9694	0.9666	0.9636	0.9603	0.9567	0.9529	0.9487
51	0.9775	0.9753	0.9730	0.9704	0.9677	0.9647	0.9615	0.9580	0.9543	0.9502
52	0.9783	0.9762	0.9739	0.9714	0.9688	0.9659	0.9627	0.9593	0.9557	0.9517
53	0.9791	0.9770	0.9748	0.9724	0.9698	0.9670	0.9640	0.9607	0.9571	0.9532
54	0.9799	0.9779	0.9757	0.9734	0.9709	0.9682	0.9652	0.9620	0.9585	0.9547
55	0.9806	0.9787	0.9766	0.9744	0.9719	0.9693	0.9664	0.9633	0.9599	0.9562

Age of Joint Annuitant	45	46	47	48	49	50	51	52	53	54
56	0.9814	0.9795	0.9775	0.9753	0.9730	0.9704	0.9676	0.9646	0.9613	0.9577
57	0.9821	0.9803	0.9784	0.9763	0.9740	0.9715	0.9689	0.9659	0.9627	0.9593
58	0.9828	0.9811	0.9792	0.9772	0.9750	0.9726	0.9701	0.9672	0.9641	0.9608
59	0.9835	0.9819	0.9801	0.9781	0.9760	0.9737	0.9712	0.9685	0.9655	0.9623
60	0.9842	0.9826	0.9809	0.9790	0.9770	0.9748	0.9724	0.9698	0.9669	0.9637
61	0.9849	0.9834	0.9817	0.9799	0.9780	0.9758	0.9735	0.9710	0.9682	0.9652
62	0.9855	0.9841	0.9825	0.9808	0.9789	0.9769	0.9746	0.9722	0.9695	0.9666
63	0.9862	0.9848	0.9832	0.9816	0.9798	0.9779	0.9757	0.9734	0.9708	0.9680
64	0.9868	0.9854	0.9840	0.9824	0.9807	0.9788	0.9768	0.9746	0.9721	0.9694
65	0.9874	0.9861	0.9847	0.9832	0.9816	0.9798	0.9778	0.9757	0.9733	0.9708
66	0.9879	0.9867	0.9854	0.9840	0.9824	0.9807	0.9788	0.9768	0.9745	0.9721
67	0.9885	0.9873	0.9861	0.9847	0.9832	0.9816	0.9798	0.9779	0.9757	0.9734
68	0.9890	0.9879	0.9867	0.9854	0.9840	0.9824	0.9807	0.9789	0.9768	0.9746
69	0.9896	0.9885	0.9873	0.9861	0.9847	0.9833	0.9816	0.9799	0.9779	0.9758
70	0.9901	0.9890	0.9879	0.9868	0.9855	0.9841	0.9825	0.9808	0.9790	0.9770
71	0.9905	0.9896	0.9885	0.9874	0.9862	0.9848	0.9834	0.9818	0.9800	0.9781
72	0.9910	0.9901	0.9891	0.9880	0.9868	0.9856	0.9842	0.9827	0.9810	0.9792
73	0.9915	0.9906	0.9896	0.9886	0.9875	0.9863	0.9850	0.9835	0.9820	0.9802
74	0.9919	0.9910	0.9901	0.9892	0.9881	0.9870	0.9857	0.9844	0.9829	0.9812
75	0.9923	0.9915	0.9906	0.9897	0.9887	0.9876	0.9864	0.9852	0.9837	0.9822
76	0.9927	0.9919	0.9911	0.9902	0.9893	0.9882	0.9871	0.9859	0.9846	0.9831
77	0.9931	0.9923	0.9916	0.9907	0.9898	0.9888	0.9878	0.9866	0.9854	0.9840
78	0.9934	0.9927	0.9920	0.9912	0.9903	0.9894	0.9884	0.9873	0.9861	0.9848
79	0.9938	0.9931	0.9924	0.9917	0.9908	0.9900	0.9890	0.9880	0.9869	0.9856
80	0.9941	0.9935	0.9928	0.9921	0.9913	0.9905	0.9896	0.9886	0.9876	0.9864
81	0.9944	0.9938	0.9932	0.9925	0.9918	0.9910	0.9902	0.9892	0.9882	0.9871
82	0.9947	0.9942	0.9935	0.9929	0.9922	0.9915	0.9907	0.9898	0.9889	0.9878
83	0.9950	0.9945	0.9939	0.9933	0.9926	0.9919	0.9912	0.9904	0.9895	0.9885
84	0.9953	0.9948	0.9942	0.9937	0.9930	0.9924	0.9917	0.9909	0.9901	0.9891

Exhibit D.   Joint and 50% Contingent Factors with Pop-Up

Table 2.   Ages 55 - 64

(Basis: 50/50 Blend 1983GAM, M(-1), F(No adj))
Effective 10/1/92
AGE OF PARTICIPANT

Age of Joint Annuitant	55	56	57	58	59	60	61	62	63	64
25	0.9166	0.9108	0.9045	0.8978	0.8907	0.8831	0.8751	0.8665	0.8575	0.8479
26	0.9173	0.9114	0.9052	0.8985	0.8914	0.8838	0.8758	0.8672	0.8582	0.8486
27	0.9179	0.9121	0.9058	0.8992	0.8921	0.8845	0.8765	0.8679	0.8589	0.8493
28	0.9186	0.9128	0.9066	0.8999	0.8928	0.8853	0.8772	0.8687	0.8597	0.8501
29	0.9193	0.9135	0.9073	0.9007	0.8936	0.8861	0.8781	0.8695	0.8605	0.8510
30	0.9201	0.9143	0.9081	0.9015	0.8944	0.8869	0.8789	0.8704	0.8614	0.8518
31	0.9209	0.9151	0.9090	0.9024	0.8953	0.8878	0.8798	0.8713	0.8623	0.8528
32	0.9218	0.9160	0.9098	0.9033	0.8962	0.8888	0.8808	0.8723	0.8633	0.8538
33	0.9227	0.9169	0.9108	0.9042	0.8972	0.8897	0.8818	0.8733	0.8643	0.8548
34	0.9236	0.9179	0.9118	0.9052	0.8982	0.8908	0.8829	0.8744	0.8654	0.8560
35	0.9246	0.9189	0.9128	0.9063	0.8993	0.8919	0.8840	0.8755	0.8666	0.8571
36	0.9256	0.9199	0.9139	0.9074	0.9005	0.8930	0.8852	0.8767	0.8678	0.8584
37	0.9267	0.9210	0.9150	0.9085	0.9016	0.8943	0.8864	0.8780	0.8691	0.8597
38	0.9278	0.9222	0.9162	0.9098	0.9029	0.8955	0.8877	0.8793	0.8705	0.8611
39	0.9289	0.9234	0.9174	0.9110	0.9042	0.8969	0.8891	0.8807	0.8719	0.8625
40	0.9301	0.9246	0.9187	0.9123	0.9055	0.8982	0.8905	0.8822	0.8734	0.8640
41	0.9314	0.9259	0.9200	0.9137	0.9069	0.8997	0.8920	0.8837	0.8749	0.8656
42	0.9326	0.9272	0.9214	0.9151	0.9084	0.9012	0.8935	0.8853	0.8-66	0.8673
43	0.9340	0.9286	0.9228	0.9166	0.9099	0.9028	0.8951	0.8870	0.8783	0.8690

Age of Joint Annuitant	55	56	57	58	59	60	61	62	63	64
44	0.9353	0.9300	0.9243	0.9181	0.9115	0.9044	0.8g68	0.8887	0.8801	0.8709
45	0.9367	0.9315	0.9258	0.9197	0.9131	0.9061	0.8986	0.8905	0.8819	0.8728
46	0.9382	0.9330	0.9274	0.9213	0.9148	0.9079	0.9004	0.8924	0.8838	0.8748
47	0.9396	0.9345	0.9290	0.9230	0.9166	0.9097	0.9023	0.8943	0.8858	0.8768
48	0.9411	0.9361	0.9306	0.9247	0.9184	0.9115	0.9042	0.8963	0.8879	0.8790
49	0.9426	0.9377	0.9323	0.9265	0.9202	0.9135	0.9062	0.8984	0.8901	0.8812
50	0.9442	0.9393	0.9340	0.9283	0.9221	0.9154	0.9083	0.9006	0.8923	0.8835
51	0.9458	0.9410	0.9358	0.9301	0.9240	0.9175	0.9104	0.9028	0.8946	0.8859
52	0.9474	0.9427	0.9376	0.9320	0.9260	0.9195	0.9125	0.9050	0.8969	0.8883
53	0.9490	0.9444	0.9394	0.9339	0.9280	0.9217	0.9148	0.9073	0.8994	0.8908
54	0.9506	0.9461	0.9412	0.9359	0.9301	0.9238	0.9170	0.9097	0.9019	0.8934
55	0.9522	0.9478	0.9430	0.9378	0.9322	0.9260	0.9193	0.9121	0.9044	0.8961
56	0.9538	0.9496	0.9449	0.9398	0.9342	0.9282	0.9217	0.9146	0.9070	0.8988
57	0.9555	0.9513	0.9467	0.9418	0.9364	0.9305	0.9240	0.9171	0.9096	0.9016
58	0.9571	0.9530	0.9486	0.9438	0.9385	0.9327	0.9264	0.9196	0.9123	0.9044
59	0.9587	0.9548	0.9505	0.9458	0.9406	0.9350	0.9289	0.9222	0.9150	0.9073
60	0.9603	0.9565	0.9523	0.9477	0.9427	0.9373	0.9313	0.9248	0.9177	0.9101
61	0.9619	0.9582	0.9542	0.9497	0.9449	0.9395	0.9337	0.9274	0.9205	0.9131
62	0.9634	0.9599	0.9560	0.9517	0.9470	0.9418	0.9361	0.9300	0.9232	0.9160
63	0.9649	0.9615	0.9578	0.9536	0.9491	0.9440	0.9385	0.9325	0.9260	0.9189
64	0.9664	0.9632	0.9595	0.9555	0.9511	0.9463	0.9409	0.9351	0.9288	0.9219
65	0.9679	0.9648	0.9613	0.9574	0.9532	0.9485	0.9433	0.9377	0.9315	0.9248
66	0.9693	0.9663	0.9630	0.9593	0.9552	0.9506	D.9457	0.9402	0.9342	0.9277
67	0.9707	0.967g	0.9646	0.9611	0.9571	0.9528	0.9480	0.9427	0.9369	0.9306
68	0.9721	0.9693	0.9663	0.9629	0.9591	0.9549	0.9502	0.9451	0.9395	0.9334
69	0.9734	0.9708	0.9678	0.9646	0.9609	0.9569	0.9525	0.9475	0.9421	0.9362
70	0.9747	0.9722	0.9694	0.9663	0.9628	0.9589	0.9546	0.9499	0.9447	0.9390
71	0.9759	0.9735	0.9709	0.9679	0.9646	0.9609	0.9568	0.9522	0.9472	0.9417
72	0.9771	0.9749	0.9723	0.9695	0.9663	0.9628	0.9588	0.9545	0.9497	0.9444
73	0.9783	0.9761	0.9737	0.9710	0.9680	0.9646	0.9608	0.9567	0.9520	0.9470
74	0.9794	0.9773	0.9750	0.9725	0.9696	0.9664	0.9628	0.9588	0.9544	0.9495
75	0.9804	0.9785	0.9763	0.9739	0.9711	0.9681	0.9647	0.9608	0.9566	0.9519
76	0.9815	0.9796	0.9776	0.9752	0.9726	0.9697	0.9665	0.9628	0.9588	0.9543
77	0.9824	0.9807	0.9787	0.9765	0.9741	0.9713	0.9682	0.9647	0.9609	0.9566
78	0.9834	0.9817	0.9799	0.9778	0.9755	0.9728	0.9699	0.9666	0.9629	0.9588
79	0.9842	0.9827	0.9810	0.9790	0.9768	0.9743	0.9715	0.9684	0.9649	0.9610
80	0.9851	0.9836	0.9820	0.9801	0.9780	0.9757	0.9730	0.9701	0.9667	0.9630
81	0.9859	0.9845	0.9830	0.9812	0.9793	0.9770	0.9745	0.9717	0.9685	0.9650
82	0.9867	0.9854	0.9839	0.9823	0.9804	0.9783	0.9759	0.9732	0.9703	0.9669
83	0.9874	0.9862	0.9848	0.9833	0.9815	0.9795	0.9773	0.9747	0.9719	0.9687
84	0.9881	0.9870	0.9857	0.9842	0.9826	0.9807	0.9786	0.9762	0.9735	0.9705
85	0.9888	0.9877	0.9865	0.9851	0.9836	0.9818	0.9798	0.9776	0.9750	0.9722
86	0.9894	0.9884	0.9873	0.9860	0.9845	0.9829	0.9810	0.9789	0.9765	0.9738
87	0.9901	0.9891	0.9880	0.9868	0.9855	0.9839	0.9822	0.9802	0.9779	0.9754
88	0.9906	0.9898	0.9888	0.9876	0.9864	0.9849	0.9832	0.9814	0.9792	0.9769
89	0.9912	0.9904	0.9895	0.9884	0.9872	0.9858	0.9843	0.9825	0.9805	0.9783
90	0.9917	0.9910	0.9901	0.9891	0.9880	0.9867	0.9853	0.9836	0.9818	0.9797
91	0.9923	0.9916	0.9907	0.9898	0.9888	0.9876	0.9862	0.9847	0.9830	0.9810
92	0.9928	0.9921	0.9913	0.9905	0.9895	0.9884	0.9872	0.9857	0.9841	0.9822
93	0.9932	0.9926	0.9919	0.9911	0.9902	0.9892	0.9880	0.9867	0.9852	0.9834
94	0.9937	0.9931	0.9925	0.9917	0.9909	0.9900	0.9889	0.9876	0.9862	0.9846

Exhibit D. ~~Joint and 50% Contingent Factors with Pop-Up~~

Table 3. ~~Ages 65 - 74~~

~~(Basis: 50/50 Blend 1983GAM, M(-1), F(No adj))~~
~~Effective 10/1/92~~

~~AGE OF PARTICIPANT~~

Age of Joint Annuitant	65	66	67	68	69	70	71	72	73	74
35	0.8471	0.8366	0.8255	0.8140	0.8019	0.7892	0.7760	0.7623	0.7481	0.7333
36	0.8484	0.8379	0.8268	0.8153	0.8032	0.7906	0.7774	0.7637	0.7494	0.7346
37	0.8497	0.8392	0.8282	0.8167	0.8046	0.7920	0.7788	0.7651	0.7509	0.7361
38	0.8511	0.8407	0.8296	0.8181	0.8061	0.7935	0.7803	0.7666	0.7524	0.7376
39	0.8526	0.8422	0.8312	0.8197	0.8076	0.7950	0.7819	0.7682	0.7540	0.7392
40	0.8541	0.8437	0.8328	0.8213	0.8093	0.7967	0.7836	0.7699	0.7557	0.7409
41	0.8558	0.8454	0.8345	0.8230	0.8110	0.7985	0.7854	0.7717	0.7575	0.7427
42	0.8575	0.8471	0.8362	0.8248	0.8128	0.8003	0.7872	0.7736	0.7594	0.7447
43	0.8593	0.8489	0.8381	0.8267	0.8147	0.8022	0.7892	0.7756	0.7614	0.7467
44	0.8611	0.8508	0.8400	0.8287	0.8167	0.8043	0.7913	0.7777	0.7635	0.7488
45	0.8631	0.8528	0.8421	0.8307	0.8189	0.8064	0.7934	0.7799	0.7657	0.7510
46	0.8651	0.8549	0.8442	0.8329	0.8211	0.8087	0.7957	0.7822	0.7681	0.7534
47	0.8672	0.8571	0.8464	0.8352	0.8234	0.8110	0.7981	0.7846	0.7705	0.7559
48	0.8694	0.8594	0.8487	0.8376	0.8258	0.8135	0.8006	0.7872	0.7731	0.7585
49	0.8717	0.8617	0.8512	0.8400	0.8283	0.8161	0.8033	0.7898	0.7758	0.7613
50	0.8741	0.8642	0.8537	0.8426	0.8310	0.8188	0.8060	0.7927	0.7787	0.7641
51	0.8766	0.8667	0.8563	0.8453	0.8338	0.8216	0.8089	0.7956	0.7817	0.7672
52	0.8791	0.8693	0.8590	0.8481	0.8366	0.8246	0.8119	0.7987	0.7848	0.7703
53	0.8817	0.8721	0.8618	0.8510	0.8396	0.8276	0.8151	0.8019	0.7881	0.7737
54	0.8844	0.8749	0.8647	0.8540	0.8427	0.8308	0.8183	0.8052	0.7915	0.7772
55	0.8872	0.8778	0.8677	0.8571	0.8459	0.8341	0.8217	0.8087	0.7951	0.7808
56	0.8901	0.8807	0.8708	0.8603	0.8492	0.8375	0.8252	0.8123	0.7988	0.7846
57	0.8930	0.8837	0.8740	0.8636	0.8526	0.8411	0.8289	0.8161	0.8026	0.7885
58	0.8959	0.8868	0.8772	0.8670	0.8561	0.8447	0.8326	0.8199	0.8066	0.7926
59	0.8989	0.8900	0.8805	0.8704	0.8597	0.8484	0.8365	0.8239	0.8107	0.7969
60	0.9020	0.8932	0.8839	0.8739	0.8634	0.8523	0.8405	0.8281	0.8150	0.8012
61	0.9050	0.8965	0.8873	0.8775	0.8671	0.8562	0.8445	0.8323	0.8193	0.8057
62	0.9081	0.8997	0.8907	0.8811	0.8710	0.8601	0.8487	0.8366	0.8238	0.8104
63	0.9113	0.9030	0.8942	0.8848	0.8748	0.8642	0.8529	0.8410	0.8284	0.8151
64	0.9144	0.9064	0.8977	0.8885	0.8787	0.8683	0.8572	0.8455	0.8330	0.8200
65	0.9175	0.9097	0.9013	0.8923	0.8826	0.8724	0.8616	0.8500	0.8378	0.8249
66	0.9206	0.9130	0.9048	0.8960	0.8866	0.8766	0.8659	0.8546	0.8426	0.8299
67	0.9237	0.9163	0.9083	0.8997	0.8906	0.8808	0.8703	0.8592	0.8475	0.8350
68	0.9268	0.9196	0.9118	0.9035	0.8945	0.8850	0.8748	0.8639	0.8523	0.8401
69	0.9298	0.9228	0.9153	0.9072	0.8985	0.8892	0.8792	0.8686	0.8573	0.8453
70	0.9328	0.9260	0.9187	0.9108	0.9024	0.8933	0.8836	0.8733	0.8622	0.8505
71	0.9357	0.9292	0.9221	0.9145	0.9063	0.8975	0.8880	0.8779	0.8672	0.8557
72	0.9386	0.9323	0.9255	0.9181	0.9101	0.9016	0.8924	0.8826	0.8721	0.8609
73	0.9414	0.9353	0.9287	0.9216	0.9139	0.9056	0.8968	0.8872	0.8770	0.8660
74	0.9441	0.9383	0.9320	0.9251	0.9177	0.9096	0.9010	0.8918	0.8818	0.8712
75	0.9468	0.9412	0.9351	0.9285	0.9213	0.9136	0.9052	0.8963	0.8866	0.8763
76	0.9494	0.9440	0.9382	0.9318	0.9249	0.9174	0.9094	0.9007	0.8913	0.8813
77	0.9519	0.9468	0.9411	0.9350	0.9284	0.9212	0.9134	0.9050	0.8960	0.8863
78	0.9543	0.9494	0.9440	0.9381	0.9318	0.9249	0.9174	0.9093	0.9005	0.8911
79	0.9567	0.9520	0.9468	0.9412	0.9351	0.9284	0.9212	0.9134	0.9050	0.8959
80	0.9589	0.9544	0.9495	0.9441	0.9383	0.9319	0.9250	0.9175	0.9093	0.9006
81	0.9611	0.9568	0.9521	0.9470	0.9414	0.9353	0.9286	0.9214	0.9136	0.9051
82	0.9632	0.9591	0.9546	0.9497	0.9444	0.9385	0.9322	0.9253	0.9177	0.9096
83	0.9652	0.9613	0.9570	0.9524	0.9473	0.9417	0.9356	0.9290	0.9218	0.9140
84	0.9672	0.9635	0.9594	0.9549	0.9501	0.9448	0.9390	0.9326	0.9257	0.9182
85	0.9690	0.9655	0.9617	0.9574	0.9528	0.9477	0.9422	0.9362	0.9296	0.9224

Age of Joint Annuitant	65	66	67	68	69	70	71	72	73	74
86	0.9708	0.9675	0.9638	0.9598	0.9554	0.9506	0.9454	0.9396	0.9333	0.9264
87	0.9725	0.9694	0.9659	0.9621	0.9580	0.9534	0.9484	0.9430	0.9370	0.9304
88	0.9742	0.9712	0.9680	0.9644	0.9604	0.9561	0.9514	0.9462	0.9405	0.9342
89	0.9758	0.9730	0.9699	0.9665	0.9628	0.9587	0.9542	0.9493	0.9439	0.9380
90	0.9773	0.9747	0.9718	0.9686	0.9651	0.9612	0.9570	0.9524	0.9472	0.9416
91	0.9788	0.9763	0.9736	0.9706	0.9673	0.9636	0.9597	0.9553	0.9504	0.9451
92	0.9802	0.9779	0.9753	0.9725	0.9694	0.9660	0.9622	0.9581	0.9535	0.9485
93	0.9815	0.9793	0.9769	0.9743	0.9714	0.9682	0.9647	0.9608	0.9565	0.9518
94	0.9828	0.9808	0.9785	0.9761	0.9733	0.9704	0.9671	0.9634	0.9594	0.9550
95	0.9840	0.9821	0.9800	0.9777	0.9752	0.9724	0.9693	0.9659	0.9622	0.9580
96	0.9852	0.9834	0.9815	0.9793	0.9770	0.9744	0.9715	0.9684	0.9649	0.9610
97	0.9863	0.9847	0.9829	0.9809	0.9787	0.9763	0.9737	0.9707	0.9674	0.9638
98	0.9874	0.9859	0.9842	0.9824	0.9804	0.9782	0.9757	0.9730	0.9700	0.9666
99	0.9884	0.9871	0.9855	0.9839	0.9820	0.9800	0.9777	0.9752	0.9724	0.9693
100	0.9895	0.9882	0.9868	0.9853	0.9836	0.9817	0.9797	0.9774	0.9748	0.9720
101	0.9905	0.9893	0.9881	0.9867	0.9851	0.9834	0.9816	0.9795	0.9772	0.9746
102	0.9915	0.9904	0.9893	0.9880	0.9866	0.9851	0.9834	0.9816	0.9795	0.9772
103	0.9924	0.9915	0.9905	0.9894	0.9882	0.9868	0.9853	0.9836	0.9818	0.9797
104	0.9934	0.9926	0.9917	0.9907	0.9896	0.9885	0.9872	0.9857	0.9841	0.9823

Exhibit D. **Joint and 50% Contingent Factors with Pop-Up**

Table 4. **Ages 75 - 84**

(Basis: 50/50 Blend 1983GAM, M(-1), F(No adj))
Effective 10/1/92

AGE OF PARTICIPANT

Age of Joint Annuitant	75	76	77	78	79	80	81	82	83	84
45	0.7358	0.7202	0.7041	0.6877	0.6711	0.6542	0.6372	0.6201	0.6029	0.5856
46	0.7382	0.7225	0.7065	0.6901	0.6735	0.6566	0.6396	0.6225	0.6053	0.5880
47	0.7407	0.7251	0.7090	0.6926	0.6760	0.6592	0.6422	0.6251	0.6078	0.5905
48	0.7434	0.7277	0.7117	0.6953	0.6787	0.6619	0.6449	0.6277	0.6105	0.5931
49	0.7461	0.7305	0.7145	0.6982	0.6815	0.6647	0.6477	0.6306	0.6133	0.5959
50	0.7490	0.7335	0.7175	0.7011	0.6845	0.6677	0.6507	0.6336	0.6163	0.5989
51	0.7521	0.7366	0.7206	0.7043	0.6877	0.6709	0.6539	0.6367	0.6195	0.6021
52	0.7553	0.7398	0.7239	0.7076	0.6910	0.6742	0.6572	0.6401	0.6228	0.6054
53	0.7587	0.7433	0.7274	0.7111	0.6945	0.6777	0.6608	0.6436	0.6263	0.6089
54	0.7623	0.7468	0.7310	0.7148	0.6982	0.6815	0.6645	0.6474	0.6301	0.6126
55	0.7660	0.7506	0.7348	0.7186	0.7021	0.6854	0.6684	0.6513	0.6340	0.616
56	0.7698	0.7545	0.7388	0.7227	0.7062	0.6895	0.6726	0.6555	0.6382	0.6208
57	0.7739	0.7586	0.7430	0.7269	0.7105	0.6938	0.6769	0.6599	0.6426	0.6252
58	0.7780	0.7629	0.7473	0.7313	0.7150	0.6984	0.6815	0.6645	0.6472	0.6298
59	0.7824	0.7674	0.7519	0.7359	0.7197	0.7031	0.6863	0.6693	0.6521	0.6347
60	0.7869	0.7720	0.7566	0.7407	0.7246	0.7081	0.6913	0.6744	0.6572	0.6398
61	0.7915	0.7767	0.7614	0.7457	0.7296	0.7132	0.6966	0.6797	0.6625	0.6452
62	0.7963	0.7816	0.7665	0.7509	0.7349	0.7186	0.7020	0.6852	0.6681	0.6508
63	0.8012	0.7867	0.7717	0.7562	0.7403	0.7241	0.7076	0.6909	0.6739	0.6567
64	0.8062	0.7919	0.7770	0.7617	0.7459	0.7299	0.7135	0.6968	0.6799	0.6628
65	0.8113	0.7972	0.7825	0.7673	0.7517	0.7358	0.7195	0.7030	0.6862	0.6691
66	0.8165	0.8026	0.7881	0.7731	0.7576	0.7418	0.7257	0.7093	0.6926	0.6756
67	0.8218	0.8081	0.7937	0.7789	0.7637	0.7480	0.7321	0.7158	0.6992	0.6824
68	0.8272	0.8136	0.7995	0.7849	0.7699	0.7544	0.7386	0.7225	0.7061	0.6893
69	0.8326	0.8193	0.8054	0.7910	0.7761	0.7609	0.7453	0.7293	0.7131	0.6965
70	0.8380	0.8250	0.8113	0.7972	0.7825	0.7675	0.7521	0.7363	0.7202	0.7038
71	0.8435	0.8307	0.8173	0.8034	0.7890	0.7742	0.7590	0.7434	0.7276	0.7113
72	0.8490	0.8364	0.8233	0.8097	0.7955	0.7810	0.7660	0.7507	0.7350	0.7190
73	0.8544	0.8422	0.8293	0.8160	0.8021	0.7878	0.7731	0.7580	0.7426	0.7267
74	0.8599	0.8479	0.8354	0.8223	0.8087	0.7947	0.7802	0.7654	0.7502	0.7346
75	0.8653	0.8536	0.8414	0.8286	0.8153	0.8015	0.7874	0.7728	0.7579	0.7425
76	0.8706	0.8593	0.8473	0.8348	0.8218	0.8084	0.7945	0.7803	0.7656	0.7505
77	0.8759	0.8649	0.8532	0.8410	0.8284	0.8152	0.8017	0.7877	0.7733	0.7585
78	0.8811	0.8704	0.8590	0.8472	0.8348	0.8220	0.8088	0.7951	0.7810	0.7665
79	0.8862	0.8758	0.8648	0.8533	0.8412	0.8287	0.8158	0.8025	0.7887	0.7745
80	0.8911	0.8811	0.8704	0.8593	0.8476	0.8354	0.8228	0.8098	0.7963	0.7825
81	0.8960	0.8863	0.8760	0.8652	0.8538	0.8420	0.8297	0.8170	0.8039	0.7904
82	0.9008	0.8914	0.8815	0.8710	0.8600	0.8485	0.8366	0.8242	0.8115	0.7983
83	0.9055	0.8965	0.8868	0.8767	0.8660	0.8549	0.8433	0.8314	0.8189	0.8061
84	0.9101	0.9014	0.8921	0.8823	0.8720	0.8612	0.8500	0.8384	0.8264	0.8139
85	0.9146	0.9062	0.8973	0.8878	0.8779	.8675	0.8567	0.8454	0.8337	0.8216
86	0.9190	0.9109	0.9024	0.8933	0.8837	0.8737	0.8632	0.8523	0.8411	0.8293
87	0.9233	0.9156	0.9073	0.8986	0.8894	0.8798	0.8697	0.8592	0.8483	0.8370
88	0.9274	0.9201	0.9122	0.9038	0.8950	0.8857	0.8760	0.8660	0.8555	0.8445
89	0.9315	0.9245	0.9170	0.9090	0.9005	0.8916	0.8823	0.8726	0.8625	0.8520
90	0.9354	0.9288	0.9216	0.9140	0.9059	0.8974	0.8885	0.8792	0.8695	0.8594
91	0.9393	0.9329	0.9261	0.9188	0.9111	0.9030	0.8945	0.8856	0.8763	0.8666
92	0.9430	0.9370	0.9305	0.9236	0.9163	0.9085	0.9004	0.8919	0.8831	0.8738
93	0.9466	0.9409	0.9348	0.9282	0.9213	0.9139	0.9062	0.8981	0.8897	0.8809
94	0.9501	0.9447	0.9389	0.9327	0.9261	0.9192	0.9118	0.9042	0.8961	0.8878
95	0.9534	0.9484	0.9429	0.9371	0.9308	0.9243	0.9173	0.9101	0.9025	0.8945
96	0.9566	0.9519	0.9468	0.9413	0.9354	0.9292	0.9227	0.9158	0.9086	0.9011
97	0.9598	0.9554	0.9506	0.9454	0.9399	0.9341	0.9279	0.9215	0.9147	0.9076
98	0.9629	0.9588	0.9543	0.9495	0.9443	0.9389	0.9331	0.9271	0.9207	0.9141
99	0.9659	0.9621	0.9579	0.9535	0.9487	0.9436	0.9382	0.9326	0.9267	0.9205

100	0.9688	0.9653	0.9615	0.9574	0.9530	0.9483	0.9433	0.9381	0.9326	0.9268
101	0.9717	0.9685	0.9650	0.9613	0.9572	0.9529	0.9483	0.9435	0.9384	0.9331
102	0.9746	0.9717	0.9685	0.9651	0.9614	0.9575	0.9533	0.9489	0.9443	0.9395
103	0.9774	0.9748	0.9720	0.9689	0.9656	0.9621	0.9583	0.9544	0.9502	0.9459
104	0.9802	0.9780	0.9755	0.9728	0.9699	0.9667	0.9634	0.9599	0.9562	0.9524
105	0.9831	0.9811	0.9790	0.9766	0.9741	0.9714	0.9685	0.9655	0.9623	0.9589
106	0.9859	0.9843	0.9825	0.9805	0.9784	0.9762	0.9737	0.9712	0.9685	0.9656
107	0.9888	0.9875	0.9861	0.9845	0.9828	0.9810	0.9790	0.9770	0.9748	0.9725
108	0.9918	0.9908	0.9898	0.9886	0.9874	0.9860	0.9846	0.9831	0.9814	0.9798
109	0.9952	0.9946	0.9940	0.9933	0.9926	0.9918	0.9909	0.9900	0.9890	0.9880
110	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
111	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
112	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
113	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
114	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999

~~**Exhibit D.** **Joint and 50% Contingent Factors with Pop-Up**~~

~~**Table 5.** **Ages 85 - 94**~~

~~(Basis: 50/50 Blend 1983GAM, M(-1), F(No adj)~~
~~Effective 10/1/92~~

~~AGE OF PARTICIPANT~~

Age of Joint Annuitant	85	86	87	88	89	90	91	92	93	94
55	0.5990	0.5811	0.5630	0.5447	0.5261	0.5074	0.4886	0.4697	0.4507	0.4314
56	0.6031	0.5853	0.5671	0.5488	0.5301	0.5114	0.4925	0.4736	0.4545	0.4352
57	0.6075	0.5897	0.5715	0.5531	0.5344	0.5156	0.4967	0.4777	0.4585	0.4391
58	0.6122	0.5943	0.5761	0.5577	0.5390	0.5201	0.5011	0.4821	0.4628	0.4433
59	0.6171	0.5992	0.5810	0.5626	0.5438	0.5249	0.5059	0.4867	0.4674	0.4478
60	0.6222	0.6043	0.5862	0.5677	0.5489	0.5299	0.5109	0.4916	0.4722	0.4526
61	0.6276	0.6098	0.5916	0.5731	0.5543	0.5353	0.5161	0.4969	0.4774	0.4576
62	0.6333	0.6154	0.5973	0.5788	0.5599	0.5409	0.5217	0.5024	0.4828	0.4630
63	0.6392	0.6214	0.6032	0.5847	0.5659	0.5468	0.5276	0.5082	0.4886	0.4686
64	0.6453	0.6276	0.6094	0.5910	0.5721	0.5530	0.5338	0.5143	0.4946	0.4746
65	0.6517	0.6340	0.6159	0.5975	0.5786	0.5595	0.5403	0.5208	0.5010	0.4809
66	0.6584	0.6407	0.6227	0.6042	0.5854	0.5663	0.5470	0.5275	0.5077	0.4875
67	0.6652	0.6476	0.6297	0.6113	0.5925	0.5734	0.5541	0.5345	0.5147	0.4944
68	0.6723	0.6548	0.6369	0.6186	0.5998	0.5808	0.5615	0.5419	0.5220	0.5017
69	0.6796	0.6622	0.6444	0.6262	0.6075	0.5885	0.5692	0.5496	0.5297	0.5093
70	0.6870	0.6698	0.6521	0.6340	0.6154	0.5964	0.5771	0.5576	0.5376	0.5172
71	0.6947	0.6776	0.6601	0.6420	0.6235	0.6046	0.5854	0.5659	0.5459	0.5255
72	0.7025	0.6856	0.6682	0.6503	0.6319	0.6131	0.5940	0.5745	0.5545	0.5341
73	0.7105	0.6938	0.6765	0.6588	0.6405	0.6218	0.6028	0.5833	0.5634	0.5430
74	0.7186	0.7021	0.6850	0.6675	0.6493	0.6308	0.6118	0.5924	0.5726	0.5522
75	0.7268	0.7105	0.6936	0.6763	0.6583	0.6399	0.6211	0.6018	0.5820	0.5617
76	0.7350	0.7189	0.7023	0.6852	0.6674	0.6492	0.6305	0.6113	0.5917	0.5714
77	0.7433	0.7275	0.7111	0.6942	0.6766	0.6586	0.6401	0.6211	0.6015	0.5813
78	0.7515	0.7360	0.7199	0.7032	0.6859	0.6681	0.6497	0.6309	0.6115	0.5914
79	0.7598	0.7446	0.7288	0.7124	0.6953	0.6777	0.6595	0.6409	0.6216	0.6017
80	0.7681	0.7532	0.7377	0.7215	0.7047	0.6873	0.6694	0.6510	0.6319	0.6121
81	0.7763	0.7617	0.7465	0.7307	0.7141	0.6970	0.6794	0.6612	0.6423	0.6226
82	0.7846	0.7703	0.7554	0.7399	0.7236	0.7068	0.6894	0.6714	0.6528	0.6333
83	0.7927	0.7788	0.7643	0.7490	0.7331	0.7166	0.6995	0.6818	0.6634	0.6441
84	0.8009	0.7873	0.7731	0.7583	0.7427	0.7265	0.7097	0.6923	0.6741	0.6551
85	0.8090	0.7958	0.7820	0.7675	0.7522	0.7364	0.7199	0.7028	0.6850	0.6662
86	0.8171	0.8043	0.7908	0.7767	0.7619	0.7464	0.7303	0.7135	0.6960	0.6775
87	0.8251	0.8127	0.7997	0.7860	0.7715	0.7564	0.7407	0.7243	0.7071	0.6889
88	0.8331	0.8211	0.8085	0.7952	0.7811	0.7664	0.7511	0.7351	0.7183	0.7005
89	0.8410	0.8294	0.8172	0.8044	0.7907	0.7765	0.7616	0.7460	0.7296	0.7122
90	0.8488	0.8377	0.8259	0.8135	0.8003	0.7865	0.7720	0.7569	0.7409	0.7239
91	0.8565	0.8458	0.8345	0.8226	0.8098	0.7965	0.7825	0.7678	0.7523	0.7357
92	0.8641	0.8539	0.8430	0.8315	0.8193	0.8064	0.7929	0.7787	0.7637	0.7476
93	0.8716	0.8618	0.8515	0.8404	0.8287	0.8163	0.8033	0.7896	0.7751	0.7595
94	0.8790	0.8696	0.8597	0.8492	0.8380	0.8261	0.8137	0.8005	0.7865	0.7714
95	0.8861	0.8773	0.8679	0.8579	0.8471	0.8358	0.8239	0.8112	0.7978	0.7833
96	0.8932	0.8848	0.8759	0.8664	0.8562	0.8454	0.8340	0.8219	0.8090	0.7951
97	0.9002	0.8922	0.8838	0.8748	0.8651	0.8549	0.8440	0.8325	0.8202	0.8069
98	0.9071	0.8996	0.8917	0.8832	0.8741	0.8644	0.8541	0.8432	0.8316	0.8189
99	0.9139	0.9070	0.8996	0.8916	0.8830	0.8739	0.8643	0.8540	0.8430	0.8309
100	0.9207	0.9143	0.9074	0.9000	0.8920	0.8835	0.8744	0.8648	0.8545	0.8431
101	0.9275	0.9216	0.9152	0.9084	0.9010	0.8931	0.8847	0.8758	0.8661	0.8555
102	0.9344	0.9289	0.9231	0.9169	0.9101	0.9028	0.8951	0.8869	0.8780	0.8682
103	0.9413	0.9364	0.9311	0.9255	0.9193	0.9127	0.9057	0.8983	0.8902	0.8812
104	0.9483	0.9439	0.9393	0.9342	0.9288	0.9229	0.9166	0.9100	0.9027	0.8947
105	0.9554	0.9516	0.9476	0.9432	0.9384	0.9333	0.9278	0.9220	0.9157	0.9086

Age of Joint Annuitant	85	86	87	88	89	90	91	92	93	94
106	0.9627	0.9595	0.9561	0.9524	0.9483	0.9440	0.9394	0.9344	0.9290	0.9230
107	0.9701	0.9675	0.9648	0.9618	0.9586	0.9550	0.9513	0.9473	0.9429	0.9380
108	0.9780	0.9761	0.9740	0.9718	0.9694	0.9668	0.9640	0.9610	0.9578	0.9541
109	0.9869	0.9858	0.9846	0.9833	0.9818	0.9803	0.9786	0.9768	0.9748	0.9726
110	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
111	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
112	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
113	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
114	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
115	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
116	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
117	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
118	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
119	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
120	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
121	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
122	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
123	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
124	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999

Exhibit D. ~~Joint and 50% Contingent Factors with Pop-Up~~

Table 6. ~~Ages 95 – 104~~

~~(Basis: 50/50 Blend 1983GAM, M(-1), F(No adj))~~
~~Effective 10/1/92~~

~~AGE OF PARTICIPANT~~

Age of Joint Annuitant	95	96	97	98	99	100	101	102	103	104
65	0.4609	0.4412	0.4215	0.4015	0.3814	0.3609	0.3402	0.3191	0.2974	0.2748
66	0.4674	0.4476	0.4277	0.4077	0.3874	0.3667	0.3458	0.3245	0.3026	0.2797
67	0.4742	0.4543	0.4344	0.4142	0.3937	0.3729	0.3518	0.3302	0.3081	0.2849
68	0.4814	0.4614	0.4413	0.4210	0.4004	0.3794	0.3581	0.3363	0.3139	0.2904
69	0.4889	0.4689	0.4487	0.4282	0.4074	0.3862	0.3647	0.3427	0.3200	0.2963
70	0.4968	0.4767	0.4564	0.4358	0.4148	0.3935	0.3717	0.3495	0.3265	0.3025
71	0.5050	0.4848	0.4644	0.4437	0.4226	0.4011	0.3791	0.3567	0.3334	0.3091
72	0.5136	0.4933	0.4728	0.4520	0.4308	0.4091	0.3869	0.3642	0.3407	0.3161
73	0.5225	0.5022	0.4816	0.4607	0.4393	0.4175	0.3951	0.3722	0.3484	0.3234
74	0.5317	0.5113	0.4907	0.4697	0.4482	0.4263	0.4037	0.3806	0.3565	0.3312
75	0.5412	0.5208	0.5002	0.4791	0.4575	0.4354	0.4127	0.3894	0.3650	0.3394
76	0.5509	0.5306	0.5099	0.4888	0.4671	0.4449	0.4221	0.3985	0.3739	0.3480
77	0.5609	0.5406	0.5199	0.4988	0.4771	0.4547	0.4317	0.4080	0.3832	0.3569
78	0.5711	0.5508	0.5302	0.5090	0.4873	0.4648	0.4417	0.4178	0.3928	0.3662
79	0.5814	0.5613	0.5407	0.5195	0.4977	0.4752	0.4520	0.4279	0.4027	0.3759
80	0.5920	0.5719	0.5514	0.5303	0.5084	0.4859	0.4626	0.4384	0.4130	0.3859
81	0.6027	0.5827	0.5623	0.5412	0.5194	0.4968	0.4735	0.4491	0.4235	0.3962
82	0.6135	0.5937	0.5733	0.5524	0.5306	0.5080	0.4846	0.4602	0.4344	0.4069
83	0.6245	0.6048	0.5846	0.5638	0.5421	0.5195	0.4961	0.4716	0.4457	0.4179
84	0.6357	0.6162	0.5962	0.5754	0.5538	0.5313	0.5078	0.4833	0.4573	0.4293
85	0.6471	0.6278	0.6079	0.5873	0.5658	0.5434	0.5200	0.4954	0.4693	0.4412
86	0.6586	0.6396	0.6199	0.5995	0.5781	0.5558	0.5325	0.5079	0.4818	0.4535
87	0.6703	0.6516	0.6322	0.6120	0.5908	0.5686	0.5454	0.5208	0.4947	0.4663
88	0.6822	0.6638	0.6446	0.6247	0.6037	0.5818	0.5586	0.5342	0.5081	0.4797
89	0.6942	0.6761	0.6573	0.6377	0.6170	0.5952	0.5723	0.5480	0.5219	0.4935
90	0.7064	0.6886	0.6702	0.6509	0.6305	0.6090	0.5863	0.5621	0.5362	0.5078
91	0.7186	0.7013	0.6832	0.6643	0.6442	0.6230	0.6006	0.5767	0.5509	0.5226
92	0.7310	0.7140	0.6964	0.6779	0.6582	0.6374	0.6152	0.5916	0.5661	0.5379
93	0.7434	0.7269	0.7098	0.6917	0.6724	0.6520	0.6303	0.6070	0.5817	0.5538
94	0.7558	0.7399	0.7232	0.7056	0.6868	0.6669	0.6456	0.6227	0.5978	0.5702
95	0.7682	0.7528	0.7366	0.7195	0.7013	0.6818	0.6610	0.6386	0.6141	0.5869
96	0.7805	0.7657	0.7501	0.7336	0.7159	0.6970	0.6767	0.6548	0.6308	0.6040
97	0.7930	0.7787	0.7637	0.7478	0.7307	0.7124	0.6927	0.6714	0.6479	0.6216
98	0.8055	0.7919	0.7776	0.7623	0.7459	0.7282	0.7091	0.6885	0.6657	0.6400
99	0.8183	0.8053	0.7917	0.7771	0.7614	0.7444	0.7261	0.7061	0.6841	0.6591
100	0.8312	0.8190	0.8060	0.7922	0.7772	0.7611	0.7436	0.7244	0.7032	0.6791
101	0.8443	0.8329	0.8207	0.8077	0.7936	0.7783	0.7617	0.7435	0.7232	0.7001
102	0.8578	0.8471	0.8358	0.8237	0.8105	0.7962	0.7805	0.7634	0.7442	0.7222
103	0.8716	0.8619	0.8515	0.8403	0.8282	0.8149	0.8004	0.7844	0.7665	0.7459
104	0.8860	0.8772	0.8679	0.8578	0.8467	0.8346	0.8214	0.8068	0.7903	0.7713
105	0.9010	0.8932	0.8849	0.8760	0.8662	0.8554	0.8436	0.8305	0.8158	0.7986
106	0.9165	0.9098	0.9027	0.8951	0.8866	0.8774	0.8671	0.8558	0.8430	0.8279
107	0.9327	0.9272	0.9214	0.9151	0.9082	0.9006	0.8922	0.8828	0.8721	0.8596
108	0.9500	0.9459	0.9416	0.9368	0.9316	0.9258	0.9194	0.9122	0.9041	0.8945
109	0.9701	0.9677	0.9650	0.9621	0.9589	0.9554	0.9514	0.9470	0.9420	0.9360
110	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
111	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
112	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
113	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
114	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
115	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
116	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
117	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
118	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
119	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999

120	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
121	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
122	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
123	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
124	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
125	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
126	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
127	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
128	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
129	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
130	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
131	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
132	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
133	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
134	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999

Exhibit E. ~~Joint and 67% Contingent Factors with Pop-Up~~

Table 1. ~~Ages 45 - 54~~

(Basis: 50/50 Blend 1983GAM, M(-1), F(No adj))
Effective 10/1/92

AGE OF PARTICIPANT

Age of Joint Annuitant	45	46	47	48	49	50	51	52	53	54
15	0.9412	0.9370	0.9325	0.9277	0.9227	0.9174	0.9118	0.9059	0.8997	0.8931
16	0.9416	0.9374	0.9329	0.9281	0.9231	0.9178	0.9123	0.9064	0.9001	0.8935
17	0.9420	0.9378	0.9333	0.9286	0.9236	0.9183	0.9127	0.9068	0.9006	0.8940
18	0.9424	0.9382	0.9337	0.9290	0.9240	0.9188	0.9132	0.9073	O.9G11	0.8945
19	0.9429	0.9387	0.9342	0.9295	0.9245	0.9193	0.9137	0.9078	0.9016	0.8950
20	0.9434	0.9392	0.9347	0.9300	0.9250	0.9198	0.9142	0.9083	0.9021	0.8955
21	0.9439	0.9397	0.9352	0.9305	0.9256	0.9203	0.9148	0.9089	0.9027	0.8961
22	0.9444	O.g402	0.9358	0.9311	0.9261	0.9209	0.9154	0.9095	0.9033	0.8967
23	0.9450	0.9408	0.9364	0.9317	0.9268	0.9215	0.9160	0.9102	0.9040	0.8974
24	0.9455	0.9414	0.9370	0.9323	0.9274	0.9222	0.9167	0.9108	0.9046	0.8981
25	0.9462	0.9420	0.9376	0.9330	0.9281	0.9229	0.9174	0.9115	0.9054	0.8988
26	0.9468	0.9427	0.9383	0.9337	0.9288	0.9236	0.9181	0.9123	0.9061	0.8996
27	0.9475	0.9434	0.9390	0.9344	0.9295	0.9244	0.9189	0.9131	0.9069	0.9004
28	0.9482	0.9441	0.9398	0.9352	0.9303	0.9252	0.9197	0.9139	0.9078	0.9013
29	0.9489	0.9448	0.9405	0.9360	0.9311	0.9260	0.9206	0.9148	0.9087	0.9022
30	0.9497	0.9456	0.9413	0.9368	0.9320	0.9269	0.9215	0.9157	0.9096	0.9031
31	0.9504	0.9464	0.9422	0.9377	0.9329	0.9278	0.9224	0.9167	0.9106	0.9041
32	0.9513	0.9473	0.9431	0.9386	0.9338	0.9287	0.9234	0.9177	0.9116	0.9052
33	0.9521	0.9482	0.9440	0.9395	0.9348	0.9297	0.9244	0.9187	0.9127	0.9063
34	0.9530	0.9491	0.9449	0.9405	0.9358	0.9308	0.9255	0.9198	0.9138	0.9075
35	0.9539	0.9500	0.9459	0.9415	0.9368	0.9319	0.9266	0.9210	0.9150	0.9087
36	0.9548	0.9510	0.9469	0.9425	0.9379	0.9330	0.9277	0.9222	0.9162	0.9099
37	0.9557	0.9519	0.9479	0.9436	0.9390	0.9341	0.9289	0.9234	0.9175	0.9113
38	0.9567	0.9530	0.9490	0.9447	0.9402	0.9353	0.9302	0.9247	0.9189	0.9126
39	0.9577	0.9540	0.9500	0.9458	0.9413	0.9366	0.9315	0.9260	0.9202	0.9140
40	0.9587	0.9550	0.9512	0.9470	0.9426	0.9378	0.9328	0.9274	0.9217	0.9155
41	0.9597	0.9561	0.9523	0.9482	0.9438	0.9391	0.9342	0.9288	0.9231	0.9170
42	0.9607	0.9572	0.9534	0.9494	0.9451	0.9405	0.9356	0.9303	0.9247	0.9186
43	0.9618	0.9583	0.9546	0.9506	0.9464	0.9418	0.9370	0.9318	0.9262	0.9202
44	0.9628	0.9594	0.9558	0.9519	0.9477	0.9432	0.9384	0.9333	0.9278	0.9219
45	0.9639	0.9606	0.9570	0.9532	0.9491	0.9447	0.9399	0.9349	0.9295	0.9236
46	0.9649	0.9617	0.9582	0.9544	0.9504	0.9461	0.9415	0.9365	0.9311	0.9254
47	0.9660	0.9628	0.9594	0.9557	0.9518	0.9475	0.9430	0.9381	0.9328	0.9272
48	0.9671	0.9640	0.9606	0.9570	0.9532	0.9490	0.9446	0.9398	0.9346	0.9290
49	0.9681	0.9651	0.9619	0.9583	0.9546	O.9SOS	0.9461	0.9414	0.9363	0.9309
50	0.9692	0.9663	0.9631	0.9597	0.9560	0.9520	0.9477	0.9431	0.9381	0.9328
51	0.9702	0.9674	0.9643	0.9610	0.9574	0.9535	0.9493	0.9448	0.9399	0.9347
52	0.9713	0.9685	0.9655	0.9623	0.9588	0.9550	0.9509	0.9465	0.9418	0.9366
53	0.9723	0.9696	0.9667	0.9636	0.9602	0.9565	0.9525	0.9482	0.9436	0.9386
54	0.9733	0.9707	0.9679	0.9649	0.9616	0.9580	0.9541	0.9500	0.9454	0.9405
55	0.9743	0.9718	0.9691	0.9661	0.9629	0.9595	0.9557	0.9517	0.9473	0.9425
56	0.9753	0.9729	0.9703	0.9674	0.9643	0.9610	0.9573	0.9534	0.9491	0.9445
57	0.9763	0.9739	0.9714	0.9686	0.9657	0.9624	0.9589	0.9551	0.9509	0.9464
58	0.9772	0.9750	0.9725	0.9699	0.9670	0.9639	0.9605	0.9568	0.9528	0.9484
59	0.9782	0.9760	0.9736	0.9711	0.9683	0.9653	0.9620	0.9585	0.9546	0.9503
60	0.9791	0.9770	0.9747	0.9723	0.9696	0.9667	0.9635	0.9601	0.9563	0.9522
61	0.9800	0.9780	0.9758	0.9734	0.9708	0.9681	0.9650	0.9617	0.9581	0.9541
62	0.9808	0.9789	0.9768	0.9745	0.9721	0.9694	0.9665	0.9633	0.9598	0.9560
63	0.9817	0.9798	0.9778	0.9756	0.9733	0.9707	0.9679	0.9649	0.9615	0.9578
64	0.9825	0.9807	0.9788	0.9767	0.9744	0.9720	0.9693	0.9664	0.9632	0.9596
65	0.9833	0.9816	0.9797	0.9777	0.9756	0.9732	0.9707	0.9679	0.9648	0.9614

Age of Joint Annuitant	45	46	47	48	49	50	51	52	53	54
66	0.9840	0.9824	0.9806	0.9787	0.9767	0.9744	0.9720	0.9693	0.9664	0.9631
67	0.9847	0.9832	0.9815	0.9797	0.9777	0.9756	0.9733	0.9707	0.9679	0.9648
68	0.9855	0.9840	0.9824	0.9806	0.9788	0.9767	0.9745	0.9721	0.9694	0.9664
69	0.9861	0.9847	0.9832	0.9816	0.9798	0.9778	0.9757	0.9734	0.9708	0.9680
70	0.9868	0.9855	0.9840	0.9824	0.9807	0.9789	0.9768	0.9746	0.9722	0.9695
71	0.9874	0.9862	0.9848	0.9833	0.9816	0.9799	0.9780	0.9759	0.9736	0.9710
72	0.9881	0.9868	0.9855	0.9841	0.9825	0.9809	0.9790	0.9770	0.9749	0.9724
73	0.9886	0.9875	0.9862	0.9849	0.9834	0.9818	0.9801	0.9782	0.9761	0.9738
74	0.9892	0.9881	0.9869	0.9856	0.9842	0.9827	0.9811	0.9793	0.9773	0.9751
75	0.9898	0.9887	0.9876	0.9863	0.9850	0.9836	0.9820	0.9803	0.9785	0.9764
76	0.9903	0.9893	0.9882	0.9870	0.9858	0.9844	0.9829	0.9813	0.9796	0.9776
77	0.9908	0.9898	0.9888	0.9877	0.9865	0.9852	0.9838	0.9823	0.9806	0.9788
78	0.9913	0.9904	0.9894	0.9883	0.9872	0.9860	0.9846	0.9832	0.9816	0.9799
79	0.9917	0.9909	0.9899	0.9889	0.9878	0.9867	0.9854	0.9841	0.9826	0.9809
80	0.9922	0.9913	0.9904	0.9895	0.9885	0.9874	0.9862	0.9849	0.9835	0.9820
81	0.9926	0.9918	0.9909	0.9900	0.9891	0.9880	0.9869	0.9857	0.9844	0.9829
82	0.9930	0.9922	0.9914	0.9906	0.9897	0.9887	0.9876	0.9865	0.9852	0.9839
83	0.9934	0.9927	0.9919	0.9911	0.9902	0.9893	0.9883	0.9872	0.9860	0.9847
84	0.9937	0.9931	0.9923	0.9916	0.9907	0.9899	0.9889	0.9879	0.9868	0.9856

Exhibit E. ~~Joint and 67% Contingent Factors with Pop-Up~~

Table 2. ~~Ages 55 - 64~~

~~(Basis: 50/50 Blend 1983GAM, M(-1), F(No adj))~~
~~Effective 10/1/92~~

~~AGE OF PARTICIPANT~~

Age of Joint Annuitant	55	56	57	58	59	60	61	62	63	64
25	0.8919	0.8845	0.8766	0.8683	0.8594	0.8500	0.8401	0.8296	0.8186	0.8070
26	0.8926	0.8853	0.8774	0.8691	0.8602	0.8509	0.8409	0.8305	0.8194	0.8078
27	0.8935	0.8861	0.8783	0.8700	0.8611	0.8517	0.8418	0.8314	0.8203	0.8087
28	0.8943	0.8870	0.8792	0.8709	0.8620	0.8527	0.8428	0.8323	0.8213	0.8097
29	0.8953	0.8879	0.8801	0.8718	0.8630	0.8537	0.8438	0.8333	0.8223	0.8107
30	0.8962	0.8889	0.8811	0.8729	0.8641	0.8547	0.8448	0.8344	0.8233	0.8118
31	0.8973	0.8900	0.8822	0.8739	0.8651	0.8558	0.8459	0.8355	0.8245	0.8129
32	0.8983	0.8911	0.8833	0.8751	0.8663	0.8570	0.8471	0.8367	0.8257	0.8141
33	0.8995	0.8922	0.8845	0.8763	0.8675	0.8582	0.8484	0.8379	0.8270	0.8154
34	0.9007	0.8934	0.8857	0.8775	0.8688	0.8595	0.8497	0.8393	0.8283	0.8167
35	0.9019	0.8947	0.8870	0.8788	0.8701	0.8609	0.8511	0.8407	0.8297	0.8182
36	0.9032	0.8960	0.8884	0.8802	0.8715	0.8623	0.8525	0.8422	0.8312	0.8197
37	0.9046	0.8974	0.8898	0.8817	0.8730	0.8638	0.8541	0.8437	0.8328	0.8213
38	0.9060	0.8989	0.8913	0.8832	0.8746	0.8654	0.8557	0.8453	0.8344	0.8230
39	0.9074	0.9004	0.8928	0.8848	0.8762	0.8671	0.8573	0.8471	0.8362	0.8247
40	0.9090	0.9019	0.8944	0.8864	0.8779	0.8688	0.8591	0.8489	0.8380	0.8266
41	0.9105	0.9036	0.8961	0.8882	0.8797	0.8706	0.8610	0.8507	0.8399	0.8285
42	0.9122	0.9053	0.8979	0.8900	0.8815	0.8725	0.8629	0.8527	0.8419	0.8306
43	0.9139	0.9070	0.8997	0.8918	0.8834	0.8745	0.8649	0.8548	0.8440	0.8327
44	0.9156	0.9088	0.9015	0.8937	0.8854	0.8765	0.8670	0.8569	0.8462	0.8349
45	0.9174	0.9107	0.9035	0.8957	0.8875	0.8786	0.8692	0.8592	0.8485	0.8373
46	0.9192	0.9126	0.9055	0.8978	0.8896	0.8808	0.8715	0.8615	0.8509	0.8397
47	0.9211	0.9145	0.9075	0.8999	0.8918	0.8831	0.8738	0.8639	0.8534	0.8422
48	0.9230	0.9165	0.9096	0.9021	0.8941	0.8854	0.8762	0.8664	0.8560	0.8449
49	0.9250	0.9186	0.9117	0.9043	0.8964	0.8879	0.8787	0.8690	0.8586	0.8476
50	0.9270	0.9207	0.9139	0.9066	0.8988	0.8904	0.8813	0.8717	0.8614	0.8505
51	0.9290	0.9228	0.9162	0.9090	0.9012	0.8929	0.8840	0.8744	0.8642	0.8534
52	0.9310	0.9250	0.9185	0.9114	0.9037	0.8955	0.8867	0.8773	0.8672	0.8564
53	0.9331	0.9272	0.9208	0.9138	0.9063	0.8982	0.8895	0.8802	0.8702	0.8596
54	0.9352	0.9294	0.9231	0.9163	0.9089	0.9009	0.8924	0.8831	0.8733	0.8628
55	0.9373	0.9316	0.9255	0.9188	0.9115	0.9037	0.8953	0.8862	0.8765	0.8661
56	0.9394	0.9339	0.9279	0.9213	0.9142	0.9065	0.8982	0.8893	0.8797	0.8695
57	0.9415	0.9361	0.9302	0.9239	0.9169	0.9094	0.9012	0.8925	0.8830	0.8729
58	0.9436	0.9384	0.9326	0.9264	0.9196	0.9123	0.9043	0.8957	0.8864	0.8765
59	0.9457	0.9406	0.9350	0.9290	0.9224	0.9152	0.9073	0.8989	0.8898	0.8801
60	0.9477	0.9428	0.9374	0.9315	0.9251	0.9181	0.9104	0.9022	0.8933	0.8837
61	0.9498	0.9450	0.9398	0.9341	0.9278	0.9210	0.9135	0.9055	0.8967	0.8873
62	0.9518	0.9472	0.9422	0.9366	0.9305	0.9239	0.9166	0.9087	0.9002	0.8910
63	0.9538	0.9494	0.9445	0.9391	0.9332	0.9268	0.9197	0.9120	0.9037	0.8947
64	0.9558	0.9515	0.9468	0.9416	0.9359	0.9296	0.9228	0.9153	0.9072	0.8985
65	0.9577	0.9536	0.9490	0.9440	0.9385	0.9325	0.9258	0.9186	0.9107	0.9022
66	0.9596	0.9556	0.9513	0.9464	0.9411	0.9353	0.9288	0.9218	0.9142	0.9059
67	0.9614	0.9576	0.9534	0.9488	0.9437	0.9380	0.9318	0.9250	0.9176	0.9095
68	0.9632	0.9595	0.9555	0.9511	0.9462	0.9407	0.9347	0.9282	0.9210	0.9132
69	0.9649	0.9614	0.9576	0.9533	0.9486	0.9434	0.9376	0.9313	0.9243	0.9168
70	0.9666	0.9633	0.9596	0.9555	0.9510	0.9460	0.9404	0.9343	0.9276	0.9203
71	0.9682	0.9650	0.9615	0.9577	0.9533	0.9485	0.9432	0.9373	0.9308	0.9238
72	0.9698	0.9668	0.9634	0.9597	0.9556	0.9510	0.9459	0.9402	0.9340	0.9272
73	0.9713	0.9684	0.9653	0.9617	0.9578	0.9534	0.9485	0.9430	0.9371	0.9305
74	0.9727	0.9700	0.9670	0.9636	0.9599	0.9557	0.9510	0.9458	0.9401	0.9338
75	0.9741	0.9716	0.9687	0.9655	0.9619	0.9579	0.9534	0.9485	0.9430	0.9369
76	0.9754	0.9730	0.9703	0.9673	0.9639	0.9601	0.9558	0.9511	0.9458	0.9400
77	0.9767	0.9744	0.9719	0.9690	0.9658	0.9621	0.9581	0.9536	0.9485	0.9430
78	0.9779	0.9758	0.9734	0.9706	0.9676	0.9641	0.9603	0.9560	0.9512	0.9459
79	0.9791	0.9771	0.9748	0.9722	0.9693	0.9660	0.9624	0.9583	0.9537	0.9486

Age of Joint Annuitant	55	56	57	58	59	60	61	62	63	64
80	0.9802	0.9783	0.9761	0.9737	0.9710	0.9679	0.9644	0.9605	0.9561	0.9513
81	0.9813	0.9795	0.9774	0.9751	0.9725	0.9696	0.9663	0.9626	0.9585	0.9539
82	0.9823	0.9806	0.9787	0.9765	0.9741	0.9713	0.9682	0.9647	0.9607	0.9564
83	0.9833	0.9817	0.9799	0.9778	0.9755	0.9729	0.9699	0.9666	0.9629	0.9588
84	0.9842	0.9827	0.9810	0.9791	0.9769	0.9744	0.9716	0.9685	0.9650	0.9611
85	0.9851	0.9837	0.9821	0.9803	0.9782	0.9759	0.9733	0.9703	0.9670	0.9633
86	0.9860	0.9846	0.9831	0.9814	0.9795	0.9773	0.9749	0.9721	0.9689	0.9654
87	0.9868	0.9855	0.9841	0.9826	0.9807	0.9787	0.9764	0.9737	0.9708	0.9674
88	0.9876	0.9864	0.9851	0.9836	0.9819	0.9800	0.9778	0.9753	0.9725	0.9694
89	0.9883	0.9872	0.9860	0.9846	0.9830	0.9812	0.9792	0.9769	0.9742	0.9713
90	0.9890	0.9880	0.9869	0.9856	0.9841	0.9824	0.9805	0.9783	0.9759	0.9731
91	0.9897	0.9888	0.9877	0.9865	0.9851	0.9836	0.9818	0.9797	0.9774	0.9748
92	0.9904	0.9895	0.9885	0.9874	0.9861	0.9846	0.9830	0.9811	0.9789	0.9765
93	0.9910	0.9902	0.9893	0.9882	0.9870	0.9857	0.9841	0.9823	0.9803	0.9781
94	0.9916	0.9909	0.9900	0.9890	0.9879	0.9867	0.9852	0.9836	0.9817	0.9796

Exhibit E. ~~Joint and 67% Contingent Factors with Pop-Up~~

Table 3. ~~Ages 65 - 74~~

~~(Basis: 50/50 Blend 1983GAM, M(-1), F(No adj))~~
~~Effective 10/1/92~~

~~AGE OF PARTICIPANT~~

Age of Joint Annuitant	65	66	67	68	69	70	71	72	73	74
35	0.8061	0.7934	0.7802	0.7664	0.7522	0.7374	0.7221	0.7064	0.6901	0.6734
36	0.8076	0.7949	0.7817	0.7680	0.7537	0.7390	0.7237	0.7079	0.6916	0.6749
37	0.8092	0.7965	0.7833	0.7696	0.7554	0.7406	0.7253	0.7096	0.6933	0.6765
38	0.8109	0.7983	0.7851	0.7713	0.7571	0.7423	0.7271	0.7113	0.6950	0.6783
39	0.8127	0.8001	0.7869	0.7732	0.7589	0.7442	0.7289	0.7131	0.6968	0.6801
40	0.8146	0.8020	0.7888	0.7751	0.7609	0.7461	0.7309	0.7151	0.6988	0.6820
41	0.8165	0.8039	0.7908	0.7771	0.7629	0.7482	0.7329	0.7171	0.7008	0.6841
42	0.8186	0.8060	0.7929	0.7793	0.7651	0.7503	0.7351	0.7193	0.7030	0.6862
43	0.8208	0.8082	0.7952	0.7815	0.7673	0.7526	0.7374	0.7216	0.7053	0.6885
44	0.8230	0.8106	0.7975	0.7839	0.7697	0.7550	0.7398	0.7240	0.7077	0.6909
45	0.8254	0.8130	0.7999	0.7864	0.7722	0.7575	0.7423	0.7266	0.7103	0.6935
46	0.8279	0.8155	0.8025	0.7890	0.7749	0.7602	0.7450	0.7292	0.7130	0.6962
47	0.8305	0.8181	0.8052	0.7917	0.7776	0.7630	0.7478	0.7321	0.7158	0.6990
48	0.8332	0.8209	0.8080	0.7945	0.7805	0.7659	0.7507	0.7350	0.7188	0.7020
49	0.8360	0.8238	0.8109	0.7975	0.7835	0.7690	0.7538	0.7381	0.7219	0.7051
50	0.8389	0.8267	0.8140	0.8006	0.7867	0.7722	0.7571	0.7414	0.7252	0.7084
51	0.8419	0.8298	0.8172	0.8039	0.7900	0.7755	0.7605	0.7448	0.7286	0.7119
52	0.8451	0.8331	0.8205	0.8072	0.7934	0.7790	0.7640	0.7484	0.7323	0.7156
53	0.8483	0.8364	0.8239	0.8107	0.7970	0.7827	0.7677	0.7522	0.7361	0.7194
54	0.8516	0.8398	0.8274	0.8144	0.8007	0.7865	0.7716	0.7561	0.7401	0.7234
55	0.8551	0.8434	0.8311	0.8181	0.8046	0.7904	0.7756	0.7602	0.7442	0.7276
56	0.8586	0.8470	0.8348	0.8220	0.8086	0.7945	0.7798	0.7645	0.7485	0.7320
57	0.8622	0.8508	0.8387	0.8260	0.8127	0.7987	0.7842	0.7689	0.7531	0.7366
58	0.8659	0.8546	0.8427	0.8302	0.8170	0.8031	0.7886	0.7735	0.7577	0.7414
59	0.8696	0.8585	0.8468	0.8344	0.8213	0.8076	0.7933	0.7783	0.7626	0.7463
60	0.8734	0.8625	0.8509	0.8387	0.8258	0.8123	0.7980	0.7832	0.7676	0.7514
61	0.8773	0.8666	0.8552	0.8431	0.8304	0.8170	0.8029	0.7882	0.7728	0.7567
62	0.8812	0.8706	0.8594	0.8476	0.8350	0.8218	0.8079	0.7934	0.7781	0.7622
63	0.8851	0.8748	0.8638	0.8521	0.8398	0.8268	0.8131	0.7987	0.7836	0.7678
64	0.8890	0.8789	0.8681	0.8567	0.8446	0.8318	0.8183	0.8041	0.7891	0.7735
65	0.8930	0.8831	0.8725	0.8613	0.8494	0.8368	0.8235	0.8095	0.7948	0.7794
66	0.8969	0.8873	0.8770	0.8660	0.8543	0.8420	0.8289	0.8151	0.8006	0.7854
67	0.9008	0.8914	0.8814	0.8706	0.8592	0.8471	0.8343	0.8207	0.8064	0.7914
68	0.9047	0.8956	0.8858	0.8753	0.8641	0.8523	0.8397	0.8264	0.8124	0.7976
69	0.9085	0.8997	0.8901	0.8799	0.8691	0.8575	0.8452	0.8321	0.8183	0.8038
70	0.9123	0.9037	0.8945	0.8846	0.8740	0.8627	0.8506	0.8379	0.8244	0.8101
71	0.9161	0.9078	0.8988	0.8891	0.8788	0.8678	0.8561	0.8436	0.8304	0.8164
72	0.9198	0.9117	0.9030	0.8937	0.8837	0.8730	0.8615	0.8494	0.8364	0.8227
73	0.9234	0.9156	0.9072	0.8981	0.8884	0.8780	0.8669	0.8551	0.8424	0.8290
74	0.9269	0.9194	0.9113	0.9025	0.8931	0.8831	.8723	0.8607	0.8484	0.8353
75	0.9303	0.9231	0.9153	0.9069	0.8978	0.8880	0.8775	0.8663	0.8543	0.8416
76	0.9337	0.9267	0.9192	0.9111	0.9023	0.8929	0.8827	0.8718	0.8602	0.8478
77	0.9369	0.9303	0.9230	0.9152	0.9067	0.8976	0.8878	0.8773	0.8660	0.8539
78	0.9400	0.9337	0.9267	0.9192	0.9110	0.9023	0.8928	0.8826	0.8717	0.8599
79	0.9431	0.9370	0.9303	0.9231	0.9152	0.9068	0.8977	0.8878	0.8772	0.8659
80	0.9460	0.9402	0.9338	0.9269	0.9193	0.9112	0.9024	0.8929	0.8827	0.8717
81	0.9488	0.9432	0.9372	0.9305	0.9233	0.9155	0.9071	0.8979	0.8880	0.8774
82	0.9515	0.9462	0.9404	0.9341	0.9272	0.9197	0.9116	0.9028	0.8933	0.8830
83	0.9542	0.9491	0.9436	0.9375	0.9309	0.9237	0.9160	0.9075	0.8984	0.8885
84	0.9567	0.9519	0.9466	0.9408	0.9345	0.9277	0.9203	0.9122	0.9034	0.8939
85	0.9591	0.9546	0.9495	0.9440	0.9381	0.9315	0.9244	0.9167	0.9083	0.8991

Age of Joint Annuitant	65	66	67	68	69	70	71	72	73	74
86	0.9615	0.9571	0.9524	0.9472	0.9415	0.9352	0.9285	0.9211	0.9130	0.9043
87	0.9637	0.9596	0.9551	0.9502	0.9448	0.9389	0.9324	0.9254	0.9177	0.9093
88	0.9659	0.9620	0.9578	0.9531	0.9479	0.9423	0.9362	0.9295	0.9222	0.9142
89	0.9680	0.9643	0.9603	0.9559	0.9510	0.9457	0.9399	0.9336	0.9266	0.9190
90	0.9700	0.9665	0.9627	0.9586	0.9540	0.9490	0.9435	0.9375	0.9309	0.9236
91	0.9719	0.9687	0.9651	0.9612	0.9568	0.9521	0.9469	0.9413	0.9350	0.9281
92	0.9737	0.9707	0.9673	0.9636	0.9596	0.9552	0.9503	0.9449	0.9390	0.9325
93	0.9755	0.9727	0.9695	0.9660	0.9622	0.9581	0.9535	0.9484	0.9429	0.9367
94	0.9772	0.9745	0.9716	0.9683	0.9648	0.9609	0.9566	0.9518	0.9466	0.9408
95	0.9788	0.9763	0.9736	0.9705	0.9672	0.9636	0.9596	0.9551	0.9502	0.9448
96	0.9803	0.9780	0.9755	0.9727	0.9696	0.9662	0.9624	0.9583	0.9537	0.9486
97	0.9818	0.9797	0.9773	0.9747	0.9718	0.9687	0.9652	0.9613	0.9571	0.9523
98	0.9833	0.9813	0.9791	0.9767	0.9740	0.9711	0.9679	0.9643	0.9604	0.9560
99	0.9847	0.9829	0.9808	0.9786	0.9762	0.9735	0.9705	0.9672	0.9636	0.9595
100	0.9860	0.9844	0.9825	0.9805	0.9782	0.9758	0.9731	0.9701	0.9667	0.9630
101	0.9874	0.9859	0.9842	0.9823	0.9803	0.9780	0.9756	0.9729	0.9698	0.9664
102	0.9887	0.9873	0.9858	0.9841	0.9823	0.9803	0.9781	0.9756	0.9729	0.9698
103	0.9899	0.9887	0.9874	0.9859	0.9843	0.9825	0.9805	0.9783	0.9759	0.9732
104	0.9912	0.9902	0.9890	0.9877	0.9863	0.9847	0.9830	0.9810	0.9789	0.9765

Exhibit E. **Joint and 67% Contingent Factors with Pop-Up**

Table 4. **Ages 75 - 84**

(Basis: 50/50 Blend 1983GAM, M(-1), F(No adj))
Effective 10/1/92

AGE OF PARTICIPANT

Age of Joint Annuitant	75	76	77	78	79	80	81	82	83	84
45	0.6763	0.6587	0.6409	0.6229	0.6047	0.5866	0.5685	0.5504	0.5325	0.5146
46	0.6790	0.6614	0.6435	0.6255	0.6074	0.5892	0.5710	0.5530	0.5349	0.5170
47	0.6818	0.6642	0.6463	0.6283	0.6101	0.5919	0.5737	0.5556	0.5376	0.5196
48	0.6848	0.6672	0.6493	0.6312	0.6130	0.5948	0.5766	0.5584	0.5403	0.5223
49	0.6879	0.6703	0.6524	0.6343	0.6161	0.5979	0.5796	0.5614	0.5433	0.5252
50	0.6912	0.6736	0.6557	0.6376	0.6194	0.6011	0.5828	0.5646	0.5464	0.5283
51	0.6947	0.6771	0.6592	0.6411	0.6228	0.6045	0.5862	0.5679	0.5497	0.5315
52	0.6984	0.6808	0.6629	0.6448	a.626s	0.6082	0.5898	0.5715	0.5532	0.5350
53	0.7022	0.6847	0.6668	0.6486	0.6304	0.6120	0.5936	0.5753	0.5570	0.5387
54	0.7063	0.6887	0.6708	0.6527	0.6344	0.6160	0.5976	0.5793	0.5609	0.5426
55	0.7105	0.6930	0.6751	0.6570	0.6387	0.6203	0.6019	0.5835	0.5651	0.5467
56	0.7150	0.6975	0.6796	0.6615	0.6432	0.6248	0.6064	0.5879	0.5695	0.5511
57	0.7196	0.7022	0.6843	0.6662	0.6480	0.6296	0.6111	0.5927	0.5742	0.5557
58	0.7244	0.7070	0.6893	0.6712	0.6530	0.6346	0.6161	0.5976	0.5791	0.5606
59	0.7295	0.7121	0.6944	0.6764	0.6582	0.6398	0.6213	0.6028	0.5843	0.5658
60	0.7347	0.7174	0.6998	0.6818	0.6636	0.6453	0.6268	0.6083	0.5898	0.5712
61	0.7401	0.7229	0.7054	0.6875	0.6693	0.6510	0.6326	0.6141	0.5955	0.5770
62	0.7457	0.7286	0.7111	0.6933	0.6752	0.6570	0.6386	0.6201	0.6016	0.5830
63	0.7514	0.7345	0.7171	0.6994	0.6814	0.6631	0.6448	0.6263	0.6078	0.5892
64	0.7573	0.7405	0.7232	0.7056	0.6877	0.6696	0.6513	0.6329	0.6144	0.5958
65	0.7633	0.7467	0.7296	0.7121	0.6942	0.6762	0.6580	0.6396	0.6212	0.6026
66	0.7695	0.7530	0.7360	0.7187	0.7010	0.6830	0.6649	0.6466	0.6282	0.6097
67	0.7758	0.7595	0.7427	0.7255	0.7079	0.6901	0.6721	0.6539	0.6355	0.6171
68	0.7821	0.7660	0.7494	0.7324	0.7150	0.6973	0.6794	0.6613	0.6431	0.6247
69	0.7886	0.7727	0.7563	0.7395	0.7223	0.7047	0.6870	0.6690	0.6508	0.6325
70	0.7951	0.7795	0.7633	0.7467	0.7296	0.7123	0.6947	0.6768	0.6588	0.6406
71	0.8017	0.7863	0.7704	0.7540	0.7372	0.7200	0.7026	0.6849	0.6670	0.6489
72	0.8083	0.7932	0.7775	0.7614	0.7448	0.7278	0.7106	0.6931	0.6753	0.6574
73	0.8149	0.8001	0.7847	0.7688	0.7525	0.7357	0.7187	0.7014	0.6839	0.6661
74	0.8215	0.8070	0.7919	0.7763	0.7602	0.7437	0.7270	0.7099	0.6925	0.6749
75	0.8281	0.8139	0.7991	0.7838	0.7680	0.7518	0.7353	0.7184	0.7013	0.6838
76	0.8346	0.8208	0.8063	0.7913	0.7758	0.7599	0.7436	0.7270	0.7101	0.6929
77	0.8411	0.8276	0.8134	0.7987	0.7835	0.7679	0.7519	0.7356	0.7190	0.7020
78	0.8475	0.8343	0.8205	0.8061	0.7913	0.7760	0.7603	0.7443	0.7279	0.7112
79	0.8538	0.8410	0.8275	0.8135	0.7990	0.7840	0.7686	0.7529	0.7368	0.7204
80	0.8600	0.8475	0.8344	0.8208	0.8066	0.7920	0.7769	0.7615	0.7457	0.7296
81	0.8660	0.8540	0.8412	0.8279	0.8141	0.7999	0.7852	0.7701	0.7546	0.7388
82	0.8720	0.8603	0.8480	0.8351	0.8216	0.8077	0.7933	0.7786	0.7635	0.7480
83	0.8779	0.8666	0.8546	0.8421	0.8290	0.8155	0.8015	0.7871	0.7723	0.7572
84	0.8836	0.8727	0.8611	0.8490	0.8363	0.8232	0.8096	0.7956	0.7812	0.7663
85	0.8893	0.8788	0.8676	0.8558	0.8436	0.8308	0.8176	0.8040	0.7900	0.7755
86	0.8948	0.8847	0.8739	0.8626	0.8507	0.8384	0.8256	0.8124	0.7987	0.7847
87	0.9002	0.8905	0.8802	0.8692	0.8578	0.8459	0.8335	0.8207	0.8075	0.7938
88	0.9055	0.8962	0.8863	0.8758	0.8648	0.8532	0.8413	0.8289	0.8161	0.8029
89	0.9107	0.9018	0.8923	0.8822	0.8716	0.8605	0.8490	0.8371	0.8247	0.8119
90	0.9157	0.9072	0.8981	0.8885	0.8783	0.8677	0.8566	0.8451	0.8332	0.8209
91	0.9206	0.9125	0.9039	0.8946	0.8849	0.8747	0.8641	0.8531	0.8416	0.8298
92	0.9254	0.9177	0.9095	0.9007	0.8914	0.8816	0.8715	0.8609	0.8499	0.8385
93	0.9300	0.9227	0.9149	0.9065	0.8977	0.8884	0.8787	0.8686	0.8581	0.8472
94	0.9345	0.9276	0.9202	0.9123	0.9039	0.8950	0.8858	0.8762	0.8662	0.8557
95	0.9388	0.9323	0.9253	0.9178	0.9099	0.9015	0.8927	0.8836	0.8740	0.8641
96	0.9430	0.9369	0.9303	0.9233	0.9157	0.9078	0.8995	0.8908	0.8818	0.8724
97	0.9471	0.9414	0.9352	0.9286	0.9215	0.9140	0.9062	0.8980	0.8894	0.8805
98	0.9511	0.9458	0.9400	0.9338	0.9272	0.9202	0.9128	0.9051	0.8970	0.8886
99	0.9550	0.9501	0.9447	0.9389	0.9327	0.9262	0.9193	0.9121	0.9046	0.8967

100	0.9589	0.9543	0.9493	0.9440	0.9383	0.9322	0.9258	0.9191	0.9121	0.9047
101	0.9626	0.9585	0.9539	0.9490	0.9438	0.9382	0.9323	0.9261	0.9196	0.9128
102	0.9664	0.9626	0.9585	0.9540	0.9492	0.9441	0.9387	0.9331	0.9271	0.9209
103	0.9701	0.9667	0.9630	0.9590	0.9547	0.9501	0.9452	0.9401	0.9347	0.9291
104	0.9738	0.9709	0.9676	0.9640	0.9602	0.9562	0.9518	0.9473	0.9425	0.9375
105	0.9776	0.9750	0.9722	0.9691	0.9658	0.9623	0.9585	0.9545	0.9504	0.9460
106	0.9813	0.9792	0.9768	0.9742	0.9715	0.9685	0.9653	0.9619	0.9584	0.9547
107	0.9851	0.9834	0.9815	0.9795	0.9772	0.9748	0.9723	0.9695	0.9667	0.9637
108	0.9891	0.9878	0.9864	0.9849	0.9833	0.9815	0.9796	0.9776	0.9754	0.9732
109	0.9936	0.9928	0.9920	0.9911	0.9901	0.9891	0.9879	0.9867	0.9854	0.9841
110	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
111	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
112	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
113	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
114	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999

Exhibit E. **Joint and 67% Contingent Factors with Pop-Up**

Table 5. **Ages 85 – 94**

(Basis: 50/50 Blend 1983GAM, M(-1), F(No adj))
Effective 10/1/92
AGE OF PARTICIPANT

Age of Joint Annuitant	85	86	87	88	89	90	91	92	93	94
55	0.5283	0.5099	0.4914	0.4729	0.4543	0.4358	0.4174	0.3991	0.3809	0.3627
56	0.5327	0.5142	0.4956	0.4770	0.4583	0.4397	0.4212	0.4028	0.3845	0.3662
57	0.5373	0.5187	0.5001	0.4814	0.4626	0.4439	0.4253	0.4068	0.3884	0.3699
58	0.5421	0.5235	0.5048	0.4860	0.4672	0.4484	0.4297	0.4111	0.3925	0.3739
59	0.5472	0.5286	0.5098	0.4910	0.4720	0.4531	0.4343	0.4156	0.3969	0.3782
60	0.5526	0.5339	0.5151	0.4962	0.4771	0.4581	0.4392	0.4204	0.4016	0.3827
61	0.5583	0.5396	0.5207	0.5017	0.4826	0.4635	0.4445	0.4255	0.4065	0.3875
62	0.5643	0.5455	0.5266	0.5075	0.4883	0.4691	0.4500	0.4309	0.4118	0.3927
63	0.5706	0.5517	0.5327	0.5136	0.4943	0.4750	0.4558	0.4366	0.4174	0.3981
64	0.5771	0.5582	0.5392	0.5200	0.5007	0.4813	0.4620	0.4426	0.4233	0.4039
65	0.5839	0.5651	0.5460	0.5268	0.5073	0.4879	0.4685	0.4490	0.4295	0.4099
66	0.5910	0.5722	0.5531	0.5338	0.5143	0.4948	0.4753	0.4557	0.4361	0.4164
67	0.5984	0.5795	0.5605	0.5412	0.5216	0.5020	0.4824	0.4627	0.4430	0.4231
68	0.6061	0.5872	0.5681	0.5488	0.5292	0.5096	0.4899	0.4701	0.4503	0.4302
69	0.6140	0.5952	0.5761	0.5568	0.5372	0.5175	0.4977	0.4778	0.4579	0.4377
70	0.6221	0.6034	0.5844	0.5650	0.5454	0.5257	0.5058	0.4859	0.4658	0.4455
71	0.6305	0.6118	0.5929	0.5736	0.5540	0.5342	0.5143	0.4943	0.4741	0.4537
72	0.6391	0.6206	0.6017	0.5824	0.5628	0.5430	0.5231	0.5031	0.4828	0.4623
73	0.6480	0.6295	0.6107	0.5915	0.5720	0.5522	0.5323	0.5122	0.4918	0.4712
74	0.6569	0.6386	0.6199	0.6008	0.5814	0.5616	0.5417	0.5216	0.5012	0.4805
75	0.6661	0.6479	0.6294	0.6104	0.5910	0.5713	0.5514	0.5313	0.5108	0.4901
76	0.6753	0.6573	0.6389	0.6201	0.6008	0.5812	0.5613	0.5412	0.5208	0.5000
77	0.6847	0.6669	0.6487	0.6300	0.6108	0.5913	0.5715	0.5514	0.5310	0.5101
78	0.6941	0.6765	0.6585	0.6399	0.6209	0.6015	0.5818	0.5618	0.5414	0.5205
79	0.7035	0.6862	0.6684	0.6500	0.6312	0.6119	0.5923	0.5724	0.5520	0.5311
80	0.7130	0.6959	0.6783	0.6602	0.6415	0.6224	0.6030	0.5831	0.5628	0.5420
81	0.7225	0.7057	0.6884	0.6705	0.6520	0.6331	0.6138	0.5941	0.5739	0.5531
82	0.7320	0.7155	0.6984	0.6808	0.6626	0.6438	0.6247	0.6052	0.5851	0.5643
83	0.7415	0.7253	0.7086	0.6912	0.6732	0.6547	0.6358	0.6164	0.5965	0.5758
84	0.7511	0.7352	0.7188	0.7017	0.6840	0.6658	0.6471	0.6279	0.6081	0.5876
85	0.7606	0.7451	0.7290	0.7123	0.6949	0.6769	0.6585	0.6395	0.6199	0.5995
86	0.7701	0.7550	0.7393	0.7229	0.7058	0.6882	0.6700	0.6513	0.6319	0.6118
87	0.7797	0.7650	0.7496	0.7336	0.7169	0.6996	0.6817	0.6633	0.6442	0.6242
88	0.7892	0.7749	0.7600	0.7444	0.7280	0.7111	0.6936	0.6754	0.6566	0.6369
89	0.7987	0.7848	0.7703	0.7551	0.7392	0.7226	0.7055	0.6877	0.6692	0.6498
90	0.8081	0.7947	0.7806	0.7659	0.7504	0.7342	0.7175	0.7001	0.6820	0.6629
91	0.8174	0.8045	0.7909	0.7766	0.7616	0.7459	0.7296	0.7126	0.6949	0.6762
92	0.8267	0.8142	0.8011	0.7873	0.7728	0.7576	0.7417	0.7252	0.7079	0.6896
93	0.8358	0.8239	0.8113	0.7980	0.7839	0.7692	0.7539	0.7379	0.7210	0.7032
94	0.8449	0.8334	0.8214	0.8086	0.7951	0.7809	0.7661	0.7506	0.7342	0.7168
95	0.8537	0.8428	0.8313	0.8191	0.8061	0.7924	0.7782	0.7632	0.7474	0.7305
96	0.8625	0.8521	0.8411	0.8294	0.8170	0.8039	0.7902	0.7758	0.7606	0.7442
97	0.8712	0.8613	0.8509	0.8398	0.8279	0.8154	0.8023	0.7885	0.7739	0.7581
98	0.8798	0.8705	0.8606	0.8501	0.8389	0.8270	0.8145	0.8014	0.7873	0.7722
99	0.8884	0.8797	0.8704	0.8605	0.8499	0.8387	0.8269	0.8144	0.8010	0.7866
100	0.8970	0.8889	0.8802	0.8710	0.8610	0.8504	0.8393	0.8275	0.8149	0.8012
101	0.9057	0.8981	0.8901	0.8815	0.8722	0.8624	0.8520	0.8409	0.8291	0.8162
102	0.9144	0.9074	0.9001	0.8921	0.8836	0.8745	0.8649	0.8547	0.8437	0.8316
103	0.9232	0.9169	0.9102	0.9030	0.8952	0.8869	0.8782	0.8688	0.8587	0.8476
104	0.9322	0.9266	0.9206	0.9142	0.9072	0.8998	0.8919	0.8835	0.8744	0.8643
105	0.9414	0.9365	0.9313	0.9257	0.9196	0.9130	0.9061	0.8986	0.8906	0.8817

Age of Joint Annuitant	85	86	87	88	89	90	91	92	93	94
106	0.9508	0.9467	0.9423	0.9375	0.9323	0.9267	0.9208	0.9144	0.9076	0.8999
107	0.9606	0.9572	0.9536	0.9497	0.9455	0.9409	0.9361	0.9309	0.9253	0.9190
108	0.9709	0.9683	0.9657	0.9628	0.9596	0.9562	0.9526	0.9487	0.9445	0.9397
109	0.9827	0.9812	0.9796	0.9778	0.9759	0.9739	0.9716	0.9693	0.9667	0.9638
110	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
111	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
112	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
113	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
114	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
115	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
116	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
117	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
118	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
119	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
120	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
121	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
122	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
123	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
124	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999

Exhibit E. **Joint and 67% Contingent Factors with Pop-Up**

Table 6. **Ages 95 - 104**

(Basis: 50/50 Blend 1983GAM, M(-1), F(No adj))
Effective 10/1/92

AGE OF PARTICIPANT

Age of Joint Annuitant	95	96	97	98	99	100	101	102	103	104
65	0.3906	0.3719	0.3533	0.3347	0.3161	0.2975	0.2789	0.2601	0.2410	0.2213
66	0.3969	0.3780	0.3592	0.3405	0.3217	0.3028	0.2839	0.2649	0.2455	0.2256
67	0.4035	0.3844	0.3655	0.3465	0.3275	0.3084	0.2893	0.2699	0.2503	0.2301
68	0.4105	0.3912	0.3720	0.3529	0.3337	0.3143	0.2949	0.2754	0.2554	0.2349
69	0.4178	0.3983	0.3790	0.3596	0.3402	0.3206	0.3010	0.2811	0.2609	0.2400
70	0.4254	0.4058	0.3863	0.3668	0.3471	0.3273	0.3074	0.2872	0.2667	0.2454
71	0.4335	0.4137	0.3940	0.3743	0.3544	0.3343	0.3141	0.2937	0.2728	0.2512
72	0.4419	0.4220	0.4021	0.3822	0.3620	0.3417	0.3213	0.3005	0.2793	0.2574
73	0.4507	0.4307	0.4106	0.3905	0.3701	0.3496	0.3288	0.3078	0.2862	0.2639
74	0.4599	0.4397	0.4195	0.3992	0.3786	0.3578	0.3368	0.3154	0.2936	0.2708
75	0.4694	0.4491	0.4287	0.4082	0.3875	0.3664	0.3451	0.3235	0.3013	0.2781
76	0.4792	0.4588	0.4383	0.4176	0.3967	0.3754	0.3539	0.3319	0.3094	0.2858
77	0.4893	0.4688	0.4482	0.4274	0.4062	0.3848	0.3630	0.3407	0.3178	0.2939
78	0.4996	0.4791	0.4584	0.4374	0.4161	0.3945	0.3724	0.3499	0.3266	0.3023
79	0.5102	0.4896	0.4689	0.4478	0.4263	0.4045	0.3822	0.3594	0.3358	0.3111
80	0.5211	0.5005	0.4796	0.4585	0.4368	0.4148	0.3923	0.3692	0.3454	0.3203
81	0.5322	0.5115	0.4906	0.4694	0.4477	0.4255	0.4028	0.3794	0.3552	0.3298
82	0.5435	0.5228	0.5019	0.4806	0.4588	0.4364	0.4136	0.3900	0.3655	0.3397
83	0.5550	0.5344	0.5135	0.4922	0.4703	0.4478	0.4247	0.4009	0.3762	0.3500
84	0.5669	0.5463	0.5254	0.5041	0.4821	0.4595	0.4363	0.4123	0.3872	0.3607
85	0.5789	0.5585	0.5376	0.5163	0.4943	0.4716	0.4482	0.4241	0.3988	0.3719
86	0.5913	0.5710	0.5502	0.5289	0.5069	0.4841	0.4607	0.4363	0.4108	0.3836
87	0.6040	0.5838	0.5631	0.5419	0.5199	0.4971	0.4736	0.4491	0.4234	0.3959
88	0.6169	0.5969	0.5764	0.5552	0.5333	0.5106	0.4870	0.4624	0.4365	0.4088
89	0.6300	0.6102	0.5899	0.5689	0.5471	0.5244	0.5009	0.4762	0.4502	0.4222
90	0.6434	0.6239	0.6038	0.5830	0.5613	0.5387	0.5152	0.4905	0.4644	0.4362
91	0.6570	0.6378	0.6180	0.5974	0.5759	0.5535	0.5300	0.5053	0.4792	0.4509
92	0.6708	0.6519	0.6324	0.6121	0.5909	0.5686	0.5453	0.5207	0.4945	0.4661
93	0.6848	0.6663	0.6472	0.6272	0.6062	0.5842	0.5611	0.5367	0.5105	0.4821
94	0.6989	0.6808	0.6621	0.6425	0.6219	0.6002	0.5773	0.5531	0.5271	0.4987
95	0.7130	0.6955	0.6772	0.6580	0.6378	0.6164	0.5939	0.5699	0.5441	0.5159
96	0.7273	0.7102	0.6924	0.6737	0.6539	0.6330	0.6108	0.5872	0.5616	0.5335
97	0.7418	0.7252	0.7080	0.6898	0.6705	0.6501	0.6283	0.6051	0.5799	0.5520
98	0.7565	0.7406	0.7239	0.7063	0.6876	0.6677	0.6464	0.6237	0.5989	0.5714
99	0.7715	0.7563	0.7403	0.7233	0.7053	0.6860	0.6653	0.6431	0.6189	0.5919
100	0.7869	0.7723	0.7571	0.7409	0.7235	0.7049	0.6850	0.6635	0.6399	0.6135
101	0.8027	0.7889	0.7744	0.7590	0.7425	0.7247	0.7056	0.6849	0.6621	0.6365
102	0.8189	0.8061	0.7925	0.7780	0.7624	0.7455	0.7273	0.7076	0.6858	0.6610
103	0.8359	0.8240	0.8114	0.7979	0.7833	0.7675	0.7505	0.7318	0.7112	0.6876
104	0.8536	0.8428	0.8313	0.8189	0.8055	0.7910	0.7752	0.7580	0.7387	0.7166
105	0.8722	0.8625	0.8522	0.8412	0.8292	0.8161	0.8018	0.7861	0.7686	0.7483
106	0.8916	0.8833	0.8744	0.8648	0.8543	0.8429	0.8304	0.8166	0.8010	0.7830
107	0.9122	0.9053	0.8979	0.8900	0.8813	0.8717	0.8612	0.8496	0.8365	0.8212
108	0.9345	0.9292	0.9236	0.9175	0.9108	0.9035	0.8953	0.8863	0.8761	0.8641
109	0.9606	0.9574	0.9539	0.9501	0.9460	0.9414	0.9363	0.9306	0.9241	0.9164
110	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
111	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
112	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
113	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
114	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
115	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
116	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
117	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
118	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
119	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999

~~120~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~
~~121~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~
~~122~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~
~~123~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~
~~124~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~
~~125~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~
~~126~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~
~~127~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~
~~128~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~
~~129~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~
~~130~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~
~~131~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~
~~132~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~
~~133~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~
~~134~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~	~~0.9999~~

~~**Exhibit F.**~~   ~~**Join and 100% Contingent Factors with Pop-Up**~~

~~**Table 1.**~~   ~~**Ages 45-54**~~

~~(Basis: 50/50 Blend 1983GAM, M(-1), F(No adj))~~
~~Effective 10/1/92~~

~~AGE OF PARTICIPANT~~

~~Age of Joint Annuitant~~	~~45~~	~~46~~	~~47~~	~~48~~	~~49~~	~~50~~	~~51~~	~~52~~	~~53~~	~~54~~
~~15~~	~~0.9143~~	~~0.9084~~	~~0.9020~~	~~0.8954~~	~~0.8884~~	~~0.8811~~	~~0.8734~~	~~0.8653~~	~~0.8567~~	~~0.8478~~
~~16~~	~~0.9149~~	~~0.9089~~	~~0.9026~~	~~0.8960~~	~~0.8890~~	~~0.8817~~	~~0.8740~~	~~0.8659~~	~~0.8573~~	~~0.8484~~
~~17~~	~~0.9155~~	~~0.9095~~	~~0.9032~~	~~0.8966~~	~~0.8896~~	~~0.8823~~	~~0.8746~~	~~0.8665~~	~~0.8580~~	~~0.8490~~
~~18~~	~~0.9161~~	~~0.9101~~	~~0.9038~~	~~0.8972~~	~~0.8902~~	~~0.8829~~	~~0.8752~~	~~0.8671~~	~~0.8586~~	~~0.8496~~
~~19~~	~~0.9167~~	~~0.9108~~	~~0.9045~~	~~0.8979~~	~~0.8909~~	~~0.8836~~	~~0.8759~~	~~0.8678~~	~~0.8593~~	~~0.8503~~
~~20~~	~~0.9174~~	~~0.9115~~	~~0.9052~~	~~0.8986~~	~~0.8916~~	~~0.8843~~	~~0.8766~~	~~0.8686~~	~~0.8601~~	~~0.8511~~
~~21~~	~~0.9181~~	~~0.9122~~	~~0.9059~~	~~0.8993~~	~~0.8924~~	~~0.8851~~	~~0.8774~~	~~0.8693~~	~~0.8608~~	~~0.8519~~
~~22~~	~~0.9189~~	~~0.9130~~	~~0.9067~~	~~0.9001~~	~~0.8932~~	~~0.8859~~	~~0.8782~~	~~0.8702~~	~~0.8617~~	~~0.8527~~
~~23~~	~~0.9197~~	~~0.9138~~	~~0.9075~~	~~0.9010~~	~~0.8940~~	~~0.8868~~	~~0.8791~~	~~0.8711~~	~~0.8626~~	~~0.8536~~
~~24~~	~~0.9205~~	~~0.9146~~	~~0.9084~~	~~0.9018~~	~~0.8949~~	~~0.8877~~	~~0.8800~~	~~0.8720~~	~~0.8635~~	~~0.8546~~
~~25~~	~~0.9214~~	~~0.9155~~	~~0.9093~~	~~0.9028~~	~~0.8959~~	~~0.8886~~	~~0.8810~~	~~0.8730~~	~~0.8645~~	~~0.8555~~
~~26~~	~~0.9220~~	~~0.9164~~	~~0.9103~~	~~0.9037~~	~~0.8969~~	~~0.8896~~	~~0.8820~~	~~0.8740~~	~~0.8655~~	~~0.8566~~
~~27~~	~~0.9233~~	~~0.9174~~	~~0.9113~~	~~0.9048~~	~~0.8979~~	~~0.8907~~	~~0.8831~~	~~0.8751~~	~~0.8666~~	~~0.8577~~
~~28~~	~~0.9243~~	~~0.9184~~	~~0.9123~~	~~0.9058~~	~~0.8990~~	~~0.8918~~	~~0.8842~~	~~0.8762~~	~~0.8678~~	~~0.8589~~
~~29~~	~~0.9253~~	~~0.9195~~	~~0.9134~~	~~0.9069~~	~~0.9001~~	~~0.8930~~	~~0.8854~~	~~0.8774~~	~~0.8690~~	~~0.8601~~
~~30~~	~~0.9264~~	~~0.9206~~	~~0.9145~~	~~0.9081~~	~~0.9013~~	~~0.8942~~	~~0.8867~~	~~0.8787~~	~~0.8703~~	~~0.8614~~
~~31~~	~~0.9275~~	~~0.9218~~	~~0.9157~~	~~0.9093~~	~~0.9026~~	~~0.8955~~	~~0.8880~~	~~0.8800~~	~~0.8717~~	~~0.8628~~
~~32~~	~~0.9287~~	~~0.9230~~	~~0.9170~~	~~0.9106~~	~~0.9039~~	~~0.8968~~	~~0.8893~~	~~0.8814~~	~~0.8731~~	~~0.8643~~
~~33~~	~~0.9299~~	~~0.9242~~	~~0.9183~~	~~0.9119~~	~~0.9053~~	~~0.8982~~	~~0.8908~~	~~0.8829~~	~~0.8746~~	~~0.8658~~
~~34~~	~~0.9311~~	~~0.9255~~	~~0.9196~~	~~0.9133~~	~~0.9067~~	~~0.8997~~	~~0.8922~~	~~0.8844~~	~~0.8761~~	~~0.8674~~
~~35~~	~~0.9324~~	~~0.9268~~	~~0.9210~~	~~0.9147~~	~~0.9081~~	~~0.9012~~	~~0.8938~~	~~0.8860~~	~~0.8777~~	~~0.8690~~
~~36~~	~~0.9337~~	~~0.9282~~	~~0.9224~~	~~0.9162~~	~~0.9097~~	~~0.9027~~	~~0.8954~~	~~0.8877~~	~~0.8794~~	~~0.8707~~
~~37~~	~~0.9351~~	~~0.9296~~	~~0.9239~~	~~0.9177~~	~~0.9112~~	~~0.9044~~	~~0.8971~~	~~0.8894~~	~~0.8812~~	~~0.8726~~
~~38~~	~~0.9364~~	~~0.9311~~	~~0.9254~~	~~0.9193~~	~~0.9129~~	~~0.9061~~	~~0.8988~~	~~0.8912~~	~~0.8831~~	~~0.8744~~
~~39~~	~~0.9379~~	~~0.9326~~	~~0.9269~~	~~0.9209~~	~~0.9146~~	~~0.9078~~	~~0.9006~~	~~0.8930~~	~~0.8850~~	~~0.8764~~
~~40~~	~~0.9393~~	~~0.9341~~	~~0.9285~~	~~0.9226~~	~~0.9163~~	~~0.9096~~	~~0.9025~~	~~0.8950~~	~~0.8869~~	~~0.8784~~
~~41~~	~~0.9408~~	~~0.9356~~	~~0.9301~~	~~0.9243~~	~~0.9180~~	~~0.9114~~	~~0.9044~~	~~0.8969~~	~~0.8890~~	~~0.8805~~
~~42~~	~~0.9422~~	~~0.9372~~	~~0.9318~~	~~0.9260~~	~~0.9199~~	~~0.9133~~	~~0.9064~~	~~0.8990~~	~~0.8911~~	~~0.8827~~
~~43~~	~~0.9438~~	~~0.9388~~	~~0.9334~~	~~0.9278~~	~~0.9217~~	~~0.9153~~	~~0.9084~~	~~0.9011~~	~~0.8933~~	~~0.8850~~
~~44~~	~~0.9453~~	~~0.9404~~	~~0.9351~~	~~0.9296~~	~~0.9236~~	~~0.9172~~	~~0.9104~~	~~0.9032~~	~~0.8955~~	~~0.8873~~
~~45~~	~~0.9468~~	~~0.9420~~	~~0.9369~~	~~0.9314~~	~~0.9255~~	~~0.9192~~	~~0.9126~~	~~0.9054~~	~~0.8978~~	~~0.8897~~
~~46~~	~~0.9483~~	~~0.9436~~	~~0.9386~~	~~0.9332~~	~~0.9274~~	~~0.9213~~	~~0.9147~~	~~0.9077~~	~~0.9002~~	~~0.8921~~
~~47~~	~~0.9499~~	~~0.9453~~	~~0.9404~~	~~0.9351~~	~~0.9294~~	~~0.9234~~	~~0.9169~~	~~0.9100~~	~~0.9026~~	~~0.8946~~
~~48~~	~~0.9514~~	~~0.9469~~	~~0.9421~~	~~0.9369~~	~~0.9314~~	~~0.9255~~	~~0.9191~~	~~0.9123~~	~~0.9050~~	~~0.8972~~
~~49~~	~~0.9530~~	~~0.9486~~	~~0.9439~~	~~0.9388~~	~~0.9334~~	~~0.9276~~	~~0.9213~~	~~0.9147~~	~~0.9075~~	~~0.8998~~
~~50~~	~~0.9545~~	~~0.9502~~	~~0.9457~~	~~0.9407~~	~~0.9354~~	~~0.9297~~	~~0.9236~~	~~0.9171~~	~~0.9100~~	~~0.9024~~
~~51~~	~~0.9560~~	~~0.9519~~	~~0.9474~~	~~0.9426~~	~~0.9374~~	~~0.9319~~	~~0.9259~~	~~0.9195~~	~~0.9126~~	~~0.9051~~
~~52~~	~~0.9576~~	~~0.9535~~	~~0.9492~~	~~0.9445~~	~~0.9394~~	~~0.9340~~	~~0.9282~~	~~0.9219~~	~~0.9151~~	~~0.9079~~

53	0.9591	0.9552	0.9509	0.9464	0.9415	0.9362	0.9305	0.9244	0.9177	0.9106
54	0.9606	0.9568	0.9527	0.9482	0.9435	0.9383	0.9328	0.9268	0.9204	0.9134
55	0.9620	0.9583	0.9544	0.9501	0.9455	0.9405	0.9351	0.9293	0.9230	0.9162
56	0.9635	0.9599	0.9561	0.9519	0.9474	0.9426	0.9374	0.9317	0.9256	0.9190
57	0.9649	0.9614	0.9577	0.9537	0.9494	0.9447	0.9396	0.9342	0.9282	0.9218
58	0.9663	0.9630	0.9594	0.9555	0.9513	0.9468	0.9419	0.9366	0.9308	0.9245
59	0.9676	0.9644	0.9610	0.9573	0.9532	0.9488	0.9441	0.9390	0.9334	0.9273
60	0.9690	0.9659	0.9626	0.9590	0.9551	0.9509	0.9463	0.9413	0.9359	0.9301
61	0.9703	0.9673	0.9641	0.9607	0.9569	0.9529	0.9485	0.9437	0.9385	0.9328
62	0.9715	0.9687	0.9656	0.9623	0.9587	0.9548	0.9506	0.9460	0.9409	0.9355
63	0.9728	0.9700	0.9671	0.9639	0.9605	0.9567	0.9526	0.9482	0.9434	0.9381
64	0.9740	0.9713	0.9685	0.9655	0.9622	0.9586	0.9547	0.9504	0.9458	0.9407
65	0.9751	0.9726	0.9699	0.9670	0.9638	0.9604	0.9566	0.9526	0.9481	0.9432
66	0.9762	0.9738	0.9713	0.9685	0.9654	0.9621	0.9586	0.9547	0.9504	0.9457
67	0.9773	0.9750	0.9726	0.9699	0.9670	0.9639	0.9604	0.9567	0.9526	0.9481
68	0.9784	0.9762	0.9738	0.9713	0.9685	0.9655	0.9622	0.9587	0.9548	0.9505
69	0.9794	0.9773	0.9750	0.9726	0.9700	0.9671	0.9640	0.9606	0.9569	0.9528
70	0.9804	0.9784	0.9762	0.9739	0.9714	0.9687	0.9657	0.9625	0.9589	0.9550
71	0.9813	0.9794	0.9774	0.9751	0.9727	0.9702	0.9673	0.9643	0.9609	0.9572
72	0.9822	0.9804	0.9785	0.9763	0.9741	0.9716	0.9689	0.9660	0.9628	0.9592
73	0.9831	0.9814	0.9795	0.9775	0.9753	0.9730	0.9704	0.9677	0.9646	0.9612
74	0.9839	0.9823	0.9805	0.9786	0.9765	0.9743	0.9719	0.9693	0.9664	0.9632
75	0.9847	0.9832	0.9815	0.9797	0.9777	0.9756	0.9733	0.9708	0.9681	0.9650
76	0.9855	0.9840	0.9824	0.9807	0.9788	0.9768	0.9746	0.9723	0.9697	0.9668
77	0.9863	0.9848	0.9833	0.9817	0.9799	0.9780	0.9759	0.9737	0.9712	0.9685
78	0.9870	0.9856	0.9842	0.9826	0.9809	0.9791	0.9772	0.9750	0.9727	0.9701
79	0.9877	0.9864	0.9850	0.9835	0.9819	0.9802	0.9783	0.9763	0.9741	0.9717
80	0.9883	0.9871	0.9858	0.9843	0.9828	0.9812	0.9795	0.9776	0.9755	0.9732
81	0.9889	0.9878	0.9865	0.9852	0.9837	0.9822	0.9805	0.9787	0.9768	0.9746
82	0.9895	0.9884	0.9872	0.9860	0.9846	0.9831	0.9816	0.9799	0.9780	0.9760
83	0.9901	0.9891	0.9879	0.9867	0.9854	0.9840	0.9826	0.9810	0.9792	0.9773
84	0.9907	0.9897	0.9886	0.9874	0.9862	0.9849	0.9835	0.9820	0.9804	0.9786

Exhibit F. ~~Join and 100% Contingent Factors with Pop-Up~~

Table 2. ~~Ages 55-64~~

~~(Basis: 50/50 Blend 1983GAM, M(-1), F(No adj))~~
~~Effective 10/1/92~~

~~AGE OF PARTICIPANT~~

Age of Joint Annuitant	55	56	57	58	59	60	61	62	63	64
25	0.8461	0.8362	0.8257	0.8146	0.8030	0.7908	0.7779	0.7645	0.7505	0.7359
26	0.8472	0.8373	0.8268	0.8157	0.8041	0.7918	0.7790	0.7656	0.7516	0.7370
27	0.8483	0.8384	0.8279	0.8169	0.8052	0.7930	0.7802	0.7667	0.7527	0.7381
28	0.8495	0.8396	0.8291	0.8181	0.8064	0.7942	0.7814	0.7679	0.7539	0.7393
29	0.8508	0.8408	0.8304	0.8193	0.8077	0.7955	0.7827	0.7692	0.7552	0.7406
30	0.8521	0.8422	0.8317	0.8207	0.8091	0.7969	0.7840	0.7706	0.7565	0.7419
31	0.8535	0.8436	0.8331	0.8221	0.8105	0.7983	0.7855	0.7720	0.7580	0.7434
32	0.8549	0.8451	0.8346	0.8236	0.8120	0.7998	0.7870	0.7735	0.7595	0.7449
33	0.8565	0.8466	0.8362	0.8252	0.8136	0.8014	0.7886	0.7752	0.7611	0.7465
34	0.8581	0.8483	0.8379	0.8269	0.8153	0.8031	0.7903	0.7769	0.7628	0.7482
35	0.8598	0.8500	0.8396	0.8287	0.8171	0.8049	0.7921	0.7787	0.7646	0.7500
36	0.8615	0.8518	0.8414	0.8305	0.8190	0.8068	0.7940	0.7806	0.7665	0.7519
37	0.8634	0.8537	0.8433	0.8324	0.8209	0.8088	0.7960	0.7826	0.7686	0.7539
38	0.8653	0.8556	0.8454	0.8345	0.8230	0.8109	0.7981	0.7847	0.7707	0.7561
39	0.8673	0.8577	0.8474	0.8366	0.8251	0.8130	0.8003	0.7869	0.7729	0.7583
40	0.8694	0.8598	0.8496	0.8388	0.8274	0.8153	0.8026	0.7892	0.7752	0.7606
41	0.8716	0.8620	0.8519	0.8411	0.8298	0.8177	0.8050	0.7917	0.7777	0.7631
42	0.8738	0.8643	0.8543	0.8436	0.8322	0.8202	0.8076	0.7943	0.7803	0.7657
43	0.8761	0.8667	0.8567	0.8461	0.8348	0.8228	0.8102	0.7969	0.7830	0.7684
44	0.8785	0.8692	0.8593	0.8487	0.8374	0.8255	0.8130	0.7997	0.7858	0.7713
45	0.8810	0.8718	0.8619	0.8514	0.8402	0.8284	0.8159	0.8027	0.7888	0.7743

46	0.8836	0.8744	0.8646	0.8542	0.8431	0.8313	0.8189	0.8057	0.7919	0.7774
47	0.8862	0.8771	0.8674	0.8571	0.8460	0.8344	0.8220	0.8089	0.7951	0.7807
48	0.8888	0.8799	0.8703	0.8600	0.8491	0.8375	0.8252	0.8122	0.7985	0.7841
49	0.8915	0.8827	0.8732	0.8631	0.8523	0.8408	0.8285	0.8156	0.8020	0.7876
50	0.8943	0.8856	0.8763	0.8662	0.8555	0.8441	0.8320	0.8191	0.8056	0.7913
51	0.8972	0.8886	0.8793	0.8694	0.8589	0.8476	0.8355	0.8228	0.8093	0.7951
52	0.9000	0.8916	0.8825	0.8727	0.8623	0.8511	0.8392	0.8266	0.8132	0.7991
53	0.9029	0.8946	0.8857	0.8761	0.8658	0.8547	0.8430	0.8304	0.8172	0.8032
54	0.9059	0.8977	0.8890	0.8795	0.8693	0.8584	0.8468	0.8344	0.8213	0.8074
55	0.9088	0.9008	0.8922	0.8830	0.8730	0.8622	0.8508	0.8385	0.8255	0.8118
56	0.9118	0.9040	0.8956	0.8865	0.8766	0.8661	0.8548	0.8427	0.8298	0.8162
57	0.9148	0.9072	0.8989	0.8900	0.8804	0.8700	0.8589	0.8469	0.8343	0.8208
58	0.9177	0.9103	0.9023	0.8936	0.8841	0.8739	0.8630	0.8513	0.8388	0.8255
59	0.9207	0.9135	0.9057	0.8971	0.8879	0.8779	0.8672	0.8557	0.8434	0.8303
60	0.9236	0.9166	0.9090	0.9007	0.8917	0.8820	0.8714	0.8601	0.8480	0.8351
61	0.9266	0.9198	0.9124	0.9043	0.8955	0.8860	0.8757	0.8646	0.8527	0.8401
62	0.9295	0.9229	0.9157	0.9079	0.8993	0.8900	0.8800	0.8691	0.8575	0.8450
63	0.9323	0.9260	0.9190	0.9114	0.9031	0.8941	0.8842	0.8736	0.8622	0.8500
64	0.9351	0.9290	0.9223	0.9149	0.9068	0.8981	0.8885	0.8782	0.8670	0.8551
65	0.9379	0.9320	0.9255	0.9184	0.9106	0.9020	0.8927	0.8827	0.8718	0.8601
66	0.9406	0.9349	0.9286	0.9218	0.9142	0.9060	0.8970	0.8872	0.8766	0.8652
67	0.9432	0.9378	0.9317	0.9251	0.9178	0.9099	0.9011	0.8916	0.8813	0.8702
68	0.9458	0.9405	0.9348	0.9284	0.9214	0.9137	0.9052	0.8960	0.8860	0.8752
69	0.9483	0.9433	0.9377	0.9316	0.9249	0.9174	0.9093	0.9004	0.8907	0.8801
70	0.9507	0.9459	0.9406	0.9348	0.9283	0.9211	0.9133	0.9046	0.8952	0.8851
71	0.9530	0.9485	0.9434	0.9378	0.9316	0.9247	0.9171	0.9088	0.8998	0.8899
72	0.9553	0.9510	0.9462	0.9408	0.9348	0.9282	0.9210	0.9129	0.9042	0.8946
73	0.9575	0.9534	0.9488	0.9437	0.9380	0.9317	0.9247	0.9170	0.9085	0.8993
74	0.9596	0.9557	0.9513	0.9465	0.9410	0.9350	0.9283	0.9209	0.9128	0.9039
75	0.9617	0.9580	0.9538	0.9491	0.9440	0.9382	0.9318	0.9247	0.9169	0.9083
76	0.9636	0.9601	0.9561	0.9517	0.9468	0.9413	0.9352	0.9284	0.9209	0.9127
77	0.9655	0.9622	0.9584	0.9542	0.9495	0.9443	0.9384	0.9319	0.9248	0.9169
78	0.9673	0.9641	0.9606	0.9566	0.9521	0.9471	0.9416	0.9354	0.9285	0.9210
79	0.9690	0.9660	0.9627	0.9589	0.9547	0.9499	0.9446	0.9387	0.9321	0.9249
80	0.9707	0.9678	0.9647	0.9611	0.9571	0.9526	0.9475	0.9419	0.9356	0.9287
81	0.9722	0.9696	0.9666	0.9632	0.9594	0.9551	0.9503	0.9450	0.9390	0.9324
82	0.9737	0.9712	0.9684	0.9652	0.9616	0.9576	0.9530	0.9479	0.9423	0.9360
83	0.9752	0.9728	0.9701	0.9671	0.9637	0.9599	0.9556	0.9508	0.9454	0.9394
84	0.9766	0.9743	0.9718	0.9690	0.9658	0.9622	0.9581	0.9535	0.9484	0.9427
85	0.9779	0.9758	0.9734	0.9708	0.9677	0.9643	0.9605	0.9562	0.9513	0.9459
86	0.9791	0.9772	0.9750	0.9725	0.9696	0.9664	0.9628	0.9587	0.9541	0.9490
87	0.9803	0.9785	0.9764	0.9741	0.9714	0.9684	0.9650	0.9611	0.9568	0.9520
88	0.9815	0.9798	0.9778	0.9756	0.9731	0.9703	0.9671	0.9635	0.9594	0.9548
89	0.9826	0.9810	0.9792	0.9771	0.9748	0.9721	0.9691	0.9657	0.9619	0.9576
90	0.9837	0.9822	0.9805	0.9786	0.9764	0.9739	0.9711	0.9679	0.9642	0.9602
91	0.9847	0.9833	0.9817	0.9799	0.9779	0.9756	0.9729	0.9699	0.9665	0.9627
92	0.9857	0.9844	0.9829	0.9812	0.9793	0.9772	0.9747	0.9719	0.9687	0.9651
93	0.9866	0.9854	0.9840	0.9825	0.9807	0.9787	0.9764	0.9738	0.9708	0.9675
94	0.9875	0.9864	0.9851	0.9837	0.9820	0.9802	0.9780	0.9756	0.9728	0.9697

Exhibit F. ~~Join and 100% Contingent Factors with Pop-Up~~

Table 3. ~~Ages 65-74~~

~~(Basis: 50/50 Blend 1983GAM, M(-1), F(No adj))~~
~~Effective 10/1/92~~

~~AGE OF PARTICIPANT~~

Age of Joint Annuitant	65	66	67	68	69	70	71	72	73	74
35	0.7348	0.7191	0.7029	0.6863	0.6693	0.6518	0.6341	0.6159	0.5975	0.5789
36	0.7367	0.7210	0.7048	0.6882	0.6711	0.6537	0.6359	0.6177	0.5993	0.5806
37	0.7387	0.7230	0.7068	0.6901	0.6731	0.6556	0.6378	0.6196	0.6011	0.5824
38	0.7409	0.7251	0.7089	0.6922	0.6751	0.6576	0.6398	0.6216	0.6031	0.5843
39	0.7431	0.7274	0.7111	0.6944	0.6773	0.6598	0.6419	0.6237	0.6051	0.5863
40	0.7455	0.7297	0.7135	0.6968	0.6796	0.6621	0.6442	0.6259	0.6073	0.5885
41	0.7479	0.7322	0.7160	0.6992	0.6821	0.6645	0.6466	0.6283	0.6097	0.5908
42	0.7505	0.7348	0.7186	0.7018	0.6847	0.6671	0.6491	0.6308	0.6121	0.5932
43	0.7533	0.7376	0.7213	0.7046	0.6874	0.6698	0.6518	0.6334	0.6147	0.5958
44	0.7562	0.7404	0.7242	0.7075	0.6903	0.6727	0.6546	0.6362	0.6175	0.5985
45	0.7592	0.7435	0.7272	0.7105	0.6933	0.6757	0.6576	0.6392	0.6204	0.6013
46	0.7623	0.7466	0.7304	0.7137	0.6965	0.6788	0.6608	0.6423	0.6235	0.6044
47	0.7656	0.7500	0.7338	0.7170	0.6998	0.6822	0.6641	0.6456	0.6267	0.6076
48	0.7691	0.7534	0.7372	0.7205	0.7033	0.6857	0.6676	0.6491	0.6302	0.6110
49	0.7727	0.7571	0.7409	0.7242	0.7070	0.6893	0.6712	0.6527	0.6338	0.6145
50	0.7764	0.7609	0.7447	0.7281	0.7109	0.6932	0.6751	0.6565	0.6376	0.6183
51	0.7803	0.7648	0.7487	0.7321	0.7149	0.6973	0.6792	0.6606	0.6416	0.6223
52	0.7843	0.7689	0.7529	0.7363	0.7192	0.7015	0.6834	0.6648	0.6458	0.6265
53	0.7885	0.7732	0.7572	0.7407	0.7236	0.7060	0.6879	0.6693	0.6503	0.6309
54	0.7928	0.7776	0.7617	0.7452	0.7282	0.7106	0.6925	0.6740	0.6549	0.6356
55	0.7973	0.7822	0.7664	0.7500	0.7330	0.7155	0.6974	0.6789	0.6598	0.6404
56	0.8019	0.7869	0.7712	0.7549	0.7380	0.7205	0.7025	0.6840	0.6650	0.6455
57	0.8066	0.7917	0.7762	0.7600	0.7431	0.7257	0.7078	0.6893	0.6703	0.6509
58	0.8115	0.7967	0.7813	0.7652	0.7485	0.7312	0.7133	0.6949	0.6759	0.6565
59	0.8164	0.8018	0.7865	0.7706	0.7540	0.7368	0.7190	0.7006	0.6817	0.6623
60	0.8215	0.8071	0.7919	0.7761	0.7597	0.7426	0.7249	0.7066	0.6877	0.6684
61	0.8266	0.8124	0.7974	0.7818	0.7655	0.7485	0.7309	0.7127	0.6940	0.6747
62	0.8318	0.8178	0.8030	0.7876	0.7714	0.7546	0.7372	0.7191	0.7004	0.6812
63	0.8370	0.8232	0.8087	0.7935	0.7775	0.7609	0.7436	0.7256	0.7071	0.6879
64	0.8423	0.8288	0.8145	0.7994	0.7837	0.7673	0.7501	0.7323	0.7139	0.6949
65	0.8476	0.8343	0.8203	0.8055	0.7900	0.7737	0.7568	0.7392	0.7209	0.7020
66	0.8529	0.8399	0.8262	0.8116	0.7963	0.7803	0.7636	0.7462	0.7280	0.7093
67	0.8583	0.8455	0.8320	0.8178	0.8027	0.7870	0.7705	0.7532	0.7353	0.7167
68	0.8636	0.8511	0.8379	0.8239	0.8092	0.7937	0.7774	0.7604	0.7427	0.7243
69	0.8688	0.8567	0.8438	0.8301	0.8157	0.8005	0.7845	0.7677	0.7502	0.7320
70	0.8741	0.8623	0.8497	0.8363	0.8222	0.8073	0.7916	0.7751	0.7578	0.7399
71	0.8792	0.8678	0.8555	0.8425	0.8287	0.8141	0.7987	0.7825	0.7655	0.7478
72	0.8843	0.8732	0.8613	0.8486	0.8351	0.8208	0.8058	0.7899	0.7732	0.7557
73	0.8893	0.8786	0.8670	0.8547	0.8415	0.8276	0.8129	0.7973	0.7809	0.7638
74	0.8942	0.8838	0.8726	0.8606	0.8479	0.8343	0.8199	0.8047	0.7887	0.7718
75	0.8990	0.8890	0.8781	0.8665	0.8541	0.8409	0.8269	0.8121	0.7964	0.7798
76	0.9037	0.8940	0.8835	0.8723	0.8603	0.8475	0.8339	0.8194	0.8040	0.7879
77	0.9083	0.8989	0.8888	0.8780	0.8663	0.8539	0.8407	0.8266	0.8116	0.7958
78	0.9127	0.9037	0.8940	0.8835	0.8723	0.8602	0.8474	0.8337	0.8191	0.8037
79	0.9170	0.9084	0.8990	0.8889	0.8781	0.8664	0.8540	0.8407	0.8265	0.8115
80	0.9212	0.9129	0.9039	0.8942	0.8837	0.8725	0.8605	0.8476	0.8338	0.8192
81	0.9252	0.9172	0.9086	0.8993	0.8892	0.8784	0.8668	0.8543	0.8410	0.8268
82	0.9291	0.9215	0.9132	0.9043	0.8946	0.8842	0.8730	0.8610	0.8480	0.8342
83	0.9328	0.9256	0.9177	0.9091	0.8998	0.8898	0.8791	0.8674	0.8550	0.8416
84	0.9364	0.9295	0.9220	0.9138	0.9049	0.8954	0.8850	0.8738	0.8618	0.8488
85	0.9399	0.9334	0.9262	0.9184	0.9099	0.9007	0.8908	0.8800	0.8684	0.8560

Age of Joint Annuitant	65	66	67	68	69	70	71	72	73	74
86	0.9433	0.9371	0.9302	0.9228	0.9147	0.9059	0.8964	0.8861	0.8750	0.8630
87	0.9466	0.9407	0.9342	0.9271	0.9194	0.9110	0.9020	0.8921	0.8814	0.8699
88	0.9497	0.9441	0.9380	0.9312	0.9239	0.9160	0.9073	0.8979	0.8877	0.8766
89	0.9528	0.9475	0.9416	0.9353	0.9283	0.9208	0.9125	0.9036	0.8938	0.8832
90	0.9557	0.9507	0.9452	0.9391	0.9326	0.9254	0.9176	0.9091	0.8998	0.8897
91	0.9585	0.9537	0.9486	0.9429	0.9367	0.9299	0.9225	0.9144	0.9056	0.8960
92	0.9611	0.9567	0.9518	0.9465	0.9406	0.9342	0.9273	0.9196	0.9112	0.9021
93	0.9637	0.9596	0.9550	0.9499	0.9444	0.9384	0.9318	0.9246	0.9167	0.9081
94	0.9662	0.9623	0.9580	0.9533	0.9481	0.9425	0.9363	0.9295	0.9220	0.9138
95	0.9686	0.9649	0.9609	0.9565	0.9516	0.9464	0.9406	0.9342	0.9272	0.9194
96	0.9708	0.9674	0.9637	0.9596	0.9550	0.9501	0.9447	0.9387	0.9321	0.9249
97	0.9730	0.9699	0.9664	0.9625	0.9583	0.9537	0.9487	0.9431	0.9370	0.9302
98	0.9751	0.9722	0.9690	0.9654	0.9616	0.9573	0.9526	0.9474	0.9417	0.9354
99	0.9772	0.9745	0.9716	0.9683	0.9647	0.9607	0.9564	0.9517	0.9464	0.9405
100	0.9792	0.9768	0.9740	0.9710	0.9677	0.9641	0.9602	0.9558	0.9509	0.9455
101	0.9812	0.9790	0.9765	0.9737	0.9707	0.9675	0.9638	0.9599	0.9554	0.9505
102	0.9831	0.9811	0.9789	0.9764	0.9737	0.9707	0.9675	0.9639	0.9599	0.9554
103	0.9850	0.9832	0.9812	0.9790	0.9766	0.9740	0.9711	0.9679	0.9643	0.9603
104	0.9869	0.9854	0.9836	0.9817	0.9796	0.9772	0.9747	0.9719	0.9687	0.9652

Exhibit F. ~~Join and 100% Contingent Factors with Pop-Up~~

Table 4. ~~Ages 75-84~~

~~(Basis: 50/50 Blend 1983GAM, M(-1), F(No adj))~~
~~Effective 10/1/92~~

~~AGE OF PARTICIPANT~~

Age of Joint Annuitant	75	76	77	78	79	80	81	82	83	84
45	0.5821	0.5627	0.5433	0.5240	0.5050	0.4861	0.4676	0.4494	0.4316	0.4141
46	0.5851	0.5656	0.5462	0.5269	0.5077	0.4888	0.4702	0.4519	0.4340	0.4164
47	0.5882	0.5687	0.5492	0.5298	0.5106	0.4916	0.4730	0.4546	0.4366	0.4189
48	0.5915	0.5720	0.5524	0.5330	0.5137	0.4946	0.4759	0.4575	0.4394	0.4216
49	0.5951	0.5755	0.5558	0.5363	0.5169	0.4978	0.4790	0.4605	0.4423	0.4245
50	0.5988	0.5791	0.5594	0.5398	0.5204	0.5012	0.4823	0.4637	0.4454	0.4275
51	0.6027	0.5830	0.5632	0.5436	0.5240	0.5048	0.4857	0.4671	0.4487	0.4307
52	0.6069	0.5871	0.5673	0.5475	0.5279	0.5085	0.4895	0.4707	0.4522	0.4341
53	0.6113	0.5914	0.5715	0.5517	0.5320	0.5126	0.4934	0.4745	0.4560	0.4377
54	0.6159	0.5960	0.5760	0.5561	0.5364	0.5168	0.4976	0.4786	0.4599	0.4416
55	0.6207	0.6008	0.5808	0.5608	0.5410	0.5214	0.5020	0.4829	0.4642	0.4457
56	0.6258	0.6058	0.5858	0.5658	0.5459	0.5262	0.5067	0.4875	0.4687	0.4501
57	0.6311	0.6112	0.5911	0.5710	0.5510	0.5312	0.5117	0.4924	0.4734	0.4547
58	0.6367	0.6167	0.5966	0.5765	0.5564	0.5366	0.5169	0.4975	0.4785	0.4597
59	0.6426	0.6226	0.6024	0.5822	0.5621	0.5422	0.5224	0.5030	0.4838	0.4649
60	0.6487	0.6286	0.6085	0.5883	0.5681	0.5481	0.5283	0.5087	0.4894	0.4704
61	0.6550	0.6350	0.6148	0.5946	0.5744	0.5543	0.5344	0.5148	0.4954	0.4763
62	0.6616	0.6416	0.6214	0.6011	0.5809	0.5608	0.5408	0.5211	0.5016	0.4824
63	0.6684	0.6484	0.6282	0.6080	0.5877	0.5676	0.5476	0.5278	0.5082	0.4889
64	0.6754	0.6555	0.6353	0.6151	0.5948	0.5746	0.5546	0.5347	0.5151	0.4956
65	0.6826	0.6628	0.6427	0.6225	0.6022	0.5820	0.5619	0.5420	0.5223	0.5027
66	0.6900	0.6703	0.6503	0.6301	0.6098	0.5896	0.5695	0.5496	0.5298	0.5102
67	0.6976	0.6780	0.6580	0.6379	0.6177	0.5975	0.5774	0.5574	0.5376	0.5179
68	0.7053	0.6858	0.6660	0.6460	0.6258	0.6057	0.5856	0.5656	0.5457	0.5260
69	0.7132	0.6939	0.6742	0.6543	0.6342	0.6141	0.5940	0.5740	0.5541	0.5343

Age of Joint Annuitant	75	76	77	78	79	80	81	82	83	84
70	0.7212	0.7021	0.6826	0.6627	0.6428	0.6227	0.6027	0.5827	0.5628	0.5430
71	0.7294	0.7104	0.6911	0.6714	0.6515	0.6316	0.6116	0.5917	0.5718	0.5520
72	0.7376	0.7189	0.6997	0.6802	0.6605	0.6407	0.6208	0.6009	0.5810	0.5612
73	0.7459	0.7274	0.7085	0.6892	0.6696	0.6499	0.6301	0.6103	0.5905	0.5708
74	0.7542	0.7360	0.7173	0.6982	0.6788	0.6593	0.6396	0.6200	0.6002	0.5805
75	0.7626	0.7447	0.7262	0.7073	0.6882	0.6688	0.6493	0.6298	0.6101	0.5905
76	0.7709	0.7533	0.7351	0.7165	0.6976	0.6784	0.6591	0.6397	0.6202	0.6007
77	0.7792	0.7619	0.7440	0.7257	0.7070	0.6881	0.6690	0.6498	0.6304	0.6110
78	0.7874	0.7705	0.7530	0.7349	0.7165	0.6978	0.6789	0.6599	0.6407	0.6214
79	0.7956	0.7790	0.7618	0.7441	0.7260	0.7076	0.6889	0.6701	0.6511	0.6320
80	0.8037	0.7875	0.7706	0.7533	0.7355	0.7174	0.6990	0.6804	0.6616	0.6427
81	0.8117	0.7959	0.7794	0.7624	0.7449	0.7271	0.7090	0.6907	0.6722	0.6534
82	0.8196	0.8042	0.7881	0.7715	0.7543	0.7369	0.7191	0.7010	0.6828	0.6643
83	0.8274	0.8124	0.7967	0.7805	0.7637	0.7466	0.7291	0.7114	0.6934	0.6752
84	0.8351	0.8205	0.8053	0.7894	0.7731	0.7563	0.7392	0.7218	0.7041	0.6862
85	0.8427	0.8286	0.8137	0.7983	0.7824	0.7660	0.7493	0.7322	0.7149	0.6973
86	0.8501	0.8365	0.8221	0.8072	0.7917	0.7757	0.7594	0.7427	0.7257	0.7084
87	0.8575	0.8443	0.8304	0.8159	0.8009	0.7854	0.7694	0.7532	0.7366	0.7197
88	0.8647	0.8520	0.8386	0.8246	0.8100	0.7949	0.7795	0.7636	0.7474	0.7309
89	0.8718	0.8596	0.8467	0.8331	0.8190	0.8045	0.7894	0.7740	0.7583	0.7422
90	0.8788	0.8670	0.8546	0.8416	0.8280	0.8139	0.7993	0.7844	0.7691	0.7535
91	0.8855	0.8743	0.8624	0.8499	0.8368	0.8232	0.8092	0.7947	0.7799	0.7647
92	0.8922	0.8815	0.8701	0.8581	0.8455	0.8324	0.8189	0.8049	0.7906	0.7759
93	0.8986	0.8884	0.8776	0.8661	0.8540	0.8415	0.8285	0.8151	0.8013	0.7871
94	0.9049	0.8952	0.8849	0.8740	0.8625	0.8504	0.8380	0.8251	0.8119	0.7982
95	0.9110	0.9019	0.8921	0.8816	0.8707	0.8592	0.8473	0.8350	0.8223	0.8092
96	0.9169	0.9083	0.8990	0.8892	0.8787	0.8678	0.8565	0.8447	0.8326	0.8200
97	0.9227	0.9146	0.9059	0.8966	0.8867	0.8764	0.8656	0.8544	0.8429	0.8309
98	0.9284	0.9208	0.9126	0.9039	0.8946	0.8849	0.8747	0.8641	0.8531	0.8418
99	0.9340	0.9270	0.9193	0.9111	0.9024	0.8933	0.8837	0.8737	0.8634	0.8527
100	0.9396	0.9330	0.9259	0.9183	0.9102	0.9017	0.8927	0.8834	0.8737	0.8636
101	0.9450	0.9390	0.9325	0.9255	0.9180	0.9101	0.9017	0.8931	0.8840	0.8747
102	0.9504	0.9450	0.9390	0.9326	0.9257	0.9185	0.9108	0.9029	0.8945	0.8859
103	0.9558	0.9509	0.9456	0.9398	0.9336	0.9270	0.9201	0.9128	0.9052	0.8973
104	0.9613	0.9569	0.9522	0.9471	0.9415	0.9357	0.9295	0.9230	0.9162	0.9091
105	0.9668	0.9630	0.9589	0.9544	0.9496	0.9445	0.9391	0.9333	0.9274	0.9212
106	0.9723	0.9691	0.9656	0.9619	0.9578	0.9535	0.9489	0.9440	0.9389	0.9336
107	0.9779	0.9754	0.9726	0.9695	0.9662	0.9627	0.9590	0.9550	0.9509	0.9465
108	0.9838	0.9819	0.9798	0.9776	0.9751	0.9725	0.9697	0.9667	0.9636	0.9604
109	0.9904	0.9893	0.9881	0.9867	0.9853	0.9837	0.9820	0.9802	0.9783	0.9763
110	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
111	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
112	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
113	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
114	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999

Exhibit F. ~~Join and 100% Contingent Factors with Pop-Up~~

Table 5. ~~Ages 85-94~~

~~(Basis: 50/50 Blend 1983GAM, M(-1), F(No adj))~~
~~Effective 10/1/92~~

~~AGE OF PARTICIPANT~~

Age of Joint Annuitant	85	86	87	88	89	90	91	92	93	94
55	0.4275	0.4096	0.3918	0.3743	0.3569	0.3399	0.3232	0.3069	0.2909	0.2751
56	0.4318	0.4137	0.3958	0.3781	0.3607	0.3435	0.3267	0.3102	0.2940	0.2781
57	0.4363	0.4181	0.4001	0.3823	0.3646	0.3473	0.3304	0.3138	0.2974	0.2813
58	0.4411	0.4228	0.4046	0.3867	0.3689	0.3514	0.3343	0.3176	0.3011	0.2848
59	0.4462	0.4277	0.4095	0.3914	0.3734	0.3558	0.3386	0.3216	0.3049	0.2885
60	0.4516	0.4330	0.4146	0.3963	0.3783	0.3605	0.3431	0.3259	0.3091	0.2924
61	0.4573	0.4386	0.4200	0.4016	0.3834	0.3654	0.3478	0.3305	0.3135	0.2967
62	0.4634	0.4445	0.4258	0.4072	0.3888	0.3707	0.3529	0.3354	0.3182	0.3012
63	0.4697	0.4507	0.4319	0.4132	0.3946	0.3763	0.3583	0.3407	0.3232	0.3060
64	0.4764	0.4573	0.4383	0.4194	0.4007	0.3822	0.3640	0.3462	0.3286	0.3111
65	0.4834	0.4641	0.4450	0.4260	0.4071	0.3884	0.3701	0.3520	0.3342	0.3166
66	0.4907	0.4713	0.4521	0.4329	0.4138	0.3950	0.3765	0.3582	0.3402	0.3223
67	0.4984	0.4789	0.4595	0.4402	0.4210	0.4020	0.3832	0.3648	0.3465	0.3284
68	0.5063	0.4868	0.4673	0.4478	0.4284	0.4092	0.3903	0.3717	0.3532	0.3348
69	0.5146	0.4950	0.4754	0.4558	0.4362	0.4169	0.3978	0.3789	0.3602	0.3416
70	0.5233	0.5035	0.4838	0.4641	0.4444	0.4249	0.4056	0.3865	0.3676	0.3488
71	0.5322	0.5124	0.4926	0.4728	0.4530	0.4333	0.4138	0.3946	0.3754	0.3564
72	0.5415	0.5216	0.5018	0.4818	0.4619	0.4421	0.4224	0.4030	0.3836	0.3643
73	0.5510	0.5311	0.5112	0.4912	0.4711	0.4512	0.4314	0.4118	0.3922	0.3727
74	0.5608	0.5409	0.5210	0.5009	0.4807	0.4607	0.4407	0.4209	0.4012	0.3814
75	0.5708	0.5509	0.5310	0.5109	0.4906	0.4705	0.4504	0.4304	0.4105	0.3905
76	0.5810	0.5612	0.5412	0.5211	0.5008	0.4806	0.4604	0.4402	0.4201	0.4000
77	0.5914	0.5717	0.5517	0.5316	0.5113	0.4909	0.4707	0.4504	0.4301	0.4098
78	0.6020	0.5823	0.5624	0.5423	0.5220	0.5016	0.4812	0.4608	0.4404	0.4199
79	0.6127	0.5931	0.5733	0.5532	0.5329	0.5125	0.4920	0.4716	0.4510	0.4303
80	0.6235	0.6041	0.5844	0.5644	0.5440	0.5236	0.5031	0.4826	0.4619	0.4410
81	0.6345	0.6152	0.5956	0.5757	0.5554	0.5350	0.5145	0.4938	0.4731	0.4521
82	0.6455	0.6264	0.6070	0.5871	0.5669	0.5465	0.5260	0.5054	0.4845	0.4634
83	0.6567	0.6378	0.6185	0.5988	0.5787	0.5584	0.5379	0.5172	0.4963	0.4751
84	0.6679	0.6493	0.6302	0.6107	0.5907	0.5704	0.5500	0.5294	0.5084	0.4871
85	0.6793	0.6609	0.6420	0.6227	0.6029	0.5828	0.5624	0.5418	0.5209	0.4995
86	0.6908	0.6727	0.6541	0.6350	0.6153	0.5954	0.5751	0.5546	0.5337	0.5123
87	0.7023	0.6845	0.6662	0.6474	0.6280	0.6082	0.5882	0.5677	0.5469	0.5255
88	0.7140	0.6965	0.6786	0.6600	0.6409	0.6213	0.6014	0.5812	0.5604	0.5391
89	0.7257	0.7086	0.6910	0.6728	0.6539	0.6346	0.6150	0.5949	0.5743	0.5530
90	0.7374	0.7207	0.7035	0.6856	0.6671	0.6481	0.6287	0.6089	0.5884	0.5673
91	0.7491	0.7328	0.7161	0.6986	0.6805	0.6618	0.6427	0.6231	0.6029	0.5820
92	0.7608	0.7450	0.7287	0.7117	0.6940	0.6757	0.6569	0.6376	0.6177	0.5970
93	0.7725	0.7572	0.7414	0.7248	0.7075	0.6897	0.6713	0.6524	0.6328	0.6123
94	0.7841	0.7694	0.7540	0.7380	0.7212	0.7038	0.6859	0.6674	0.6481	0.6279
95	0.7956	0.7814	0.7666	0.7511	0.7348	0.7179	0.7005	0.6824	0.6636	0.6438
96	0.8070	0.7934	0.7792	0.7643	0.7485	0.7322	0.7152	0.6976	0.6793	0.6599
97	0.8185	0.8055	0.7919	0.7775	0.7624	0.7466	0.7302	0.7131	0.6953	0.6763
98	0.8300	0.8176	0.8046	0.7909	0.7764	0.7612	0.7454	0.7290	0.7117	0.6933
99	0.8415	0.8298	0.8175	0.8044	0.7906	0.7761	0.7610	0.7452	0.7286	0.7108
100	0.8532	0.8421	0.8305	0.8182	0.8051	0.7913	0.7769	0.7619	0.7459	0.7288
101	0.8649	0.8546	0.8437	0.8322	0.8198	0.8069	0.7933	0.7790	0.7639	0.7475
102	0.8769	0.8673	0.8573	0.8465	0.8350	0.8229	0.8102	0.7968	0.7825	0.7671
103	0.8891	0.8804	0.8711	0.8613	0.8507	0.8395	0.8278	0.8153	0.8021	0.7876
104	0.9017	0.8938	0.8855	0.8766	0.8670	0.8569	0.8462	0.8348	0.8227	0.8094
105	0.9146	0.9077	0.9004	0.8925	0.8840	0.8750	0.8654	0.8553	0.8445	0.8325
106	0.9280	0.9221	0.9158	0.9091	0.9018	0.8939	0.8857	0.8769	0.8675	0.8570
107	0.9420	0.9372	0.9320	0.9265	0.9205	0.9140	0.9071	0.8999	0.8921	0.8833
108	0.9569	0.9533	0.9494	0.9452	0.9407	0.9357	0.9305	0.9249	0.9190	0.9122
109	0.9743	0.9721	0.9697	0.9672	0.9643	0.9613	0.9581	0.9546	0.9510	0.9467

110	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
111	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
112	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
113	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
114	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
115	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
116	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
117	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
118	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
119	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
120	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
121	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
122	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
123	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
124	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999

Exhibit F.   **Join and 100% Contingent Factors with Pop-Up**

Table 6.   **Ages 95-104**

(Basis: 50/50 Blend 1983GAM, M(-1), F(No adj))

Effective 10/1/92

AGE OF PARTICIPANT

Age of Joint Annuitant	95	96	97	98	99	100	101	102	103	104
65	0.2994	0.2830	0.2670	0.2512	0.2356	0.2202	0.2050	0.1898	0.1747	0.1593
66	0.3050	0.2883	0.2721	0.2560	0.2402	0.2245	0.2090	0.1937	0.1782	0.1626
67	0.3108	0.2939	0.2774	0.2612	0.2451	0.2292	0.2134	0.1978	0.1821	0.1661
68	0.3170	0.2999	0.2831	0.2666	0.2503	0.2341	0.2181	0.2021	0.1861	0.1699
69	0.3236	0.3062	0.2892	0.2724	0.2558	0.2393	0.2230	0.2068	0.1905	0.1739
70	0.3305	0.3129	0.2956	0.2786	0.2617	0.2449	0.2283	0.2117	0.1951	0.1782
71	0.3378	0.3200	0.3024	0.2851	0.2679	0.2508	0.2339	0.2170	0.2001	0.1828
72	0.3455	0.3274	0.3096	0.2920	0.2745	0.2571	0.2399	0.2227	0.2053	0.1877
73	0.3536	0.3352	0.3172	0.2993	0.2815	0.2638	0.2462	0.2287	0.2110	0.1929
74	0.3621	0.3435	0.3251	0.3070	0.2889	0.2708	0.2529	0.2350	0.2169	0.1985
75	0.3710	0.3521	0.3335	0.3150	0.2966	0.2783	0.2600	0.2417	0.2233	0.2044
76	0.3802	0.3611	0.3422	0.3235	0.3047	0.2861	0.2675	0.2488	0.2299	0.2106
77	0.3898	0.3704	0.3513	0.3323	0.3132	0.2943	0.2753	0.2563	0.2370	0.2172
78	0.3997	0.3801	0.3607	0.3414	0.3221	0.3028	0.2835	0.2641	0.2444	0.2242
79	0.4099	0.3901	0.3705	0.3509	0.3313	0.3117	0.2920	0.2722	0.2521	0.2314
80	0.4204	0.4004	0.3806	0.3608	0.3409	0.3209	0.3009	0.2807	0.2602	0.2391
81	0.4313	0.4111	0.3911	0.3710	0.3508	0.3305	0.3101	0.2896	0.2686	0.2470
82	0.4425	0.4221	0.4019	0.3816	0.3611	0.3405	0.3198	0.2988	0.2775	0.2554
83	0.4540	0.4335	0.4131	0.3925	0.3718	0.3509	0.3298	0.3085	0.2867	0.2641
84	0.4660	0.4453	0.4247	0.4039	0.3829	0.3617	0.3403	0.3186	0.2964	0.2733
85	0.4783	0.4575	0.4367	0.4157	0.3945	0.3730	0.3513	0.3292	0.3066	0.2830
86	0.4910	0.4701	0.4492	0.4281	0.4066	0.3849	0.3628	0.3404	0.3173	0.2933
87	0.5041	0.4832	0.4622	0.4409	0.4192	0.3972	0.3749	0.3521	0.3286	0.3041
88	0.5177	0.4967	0.4756	0.4542	0.4324	0.4102	0.3876	0.3644	0.3405	0.3155
89	0.5317	0.5107	0.4896	0.4681	0.4461	0.4237	0.4008	0.3774	0.3531	0.3276
90	0.5461	0.5251	0.5040	0.4824	0.4604	0.4378	0.4147	0.3909	0.3663	0.3403
91	0.5608	0.5400	0.5189	0.4973	0.4752	0.4524	0.4292	0.4052	0.3802	0.3537
92	0.5760	0.5553	0.5342	0.5127	0.4905	0.4677	0.4443	0.4201	0.3948	0.3679
93	0.5916	0.5710	0.5501	0.5287	0.5065	0.4837	0.4601	0.4357	0.4102	0.3830
94	0.6074	0.5871	0.5664	0.5451	0.5230	0.5002	0.4766	0.4521	0.4263	0.3988
95	0.6236	0.6036	0.5831	0.5620	0.5400	0.5173	0.4937	0.4691	0.4432	0.4153
96	0.6400	0.6203	0.6002	0.5793	0.5575	0.5349	0.5113	0.4867	0.4607	0.4327
97	0.6570	0.6376	0.6178	0.5972	0.5757	0.5533	0.5299	0.5053	0.4792	0.4510
98	0.6744	0.6555	0.6361	0.6159	0.5947	0.5726	0.5494	0.5249	0.4989	0.4706
99	0.6924	0.6741	0.6552	0.6355	0.6147	0.5929	0.5700	0.5458	0.5199	0.4916
100	0.7111	0.6934	0.6751	0.6559	0.6357	0.6143	0.5918	0.5680	0.5423	0.5142
101	0.7306	0.7136	0.6960	0.6775	0.6578	0.6371	0.6151	0.5917	0.5664	0.5386

102	0.7510	0.7348	0.7180	0.7003	0.6814	0.6614	0.6401	0.6173	0.5927	0.5652
103	0.7725	0.7573	0.7415	0.7247	0.7068	0.6876	0.6672	0.6453	0.6214	0.5947
104	0.7954	0.7813	0.7666	0.7510	0.7342	0.7162	0.6969	0.6762	0.6534	0.6277
105	0.8198	0.8070	0.7936	0.7794	0.7640	0.7474	0.7296	0.7102	0.6889	0.6647
106	0.8458	0.8346	0.8227	0.8101	0.7964	0.7815	0.7655	0.7480	0.7286	0.7064
107	0.8739	0.8644	0.8544	0.8436	0.8319	0.8192	0.8053	0.7902	0.7733	0.7538
108	0.9048	0.8975	0.8896	0.8812	0.8720	0.8619	0.8508	0.8386	0.8250	0.8091
109	0.9421	0.9374	0.9324	0.9270	0.9211	0.9146	0.9074	0.8994	0.8903	0.8797
110	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
111	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
112	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
113	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
114	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
115	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
116	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
117	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
118	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
119	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
120	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
121	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
122	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
123	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
124	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
125	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
126	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
127	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
128	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
129	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
130	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
131	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
132	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
133	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
134	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999

Exhibit G.   Reduction of Immediate Early Retirement Benefit to Provide for a $100 Bridge Option Benefit to Age 62

Age	0	1	2	3	4	5	6	7	8	9	10	11
47	75.22	75.05	74.88	74.70	74.52	74.34	74.15	73.96	73.77	73.58	73.38	73.19
48	72.98	72.80	72.60	72.41	72.21	72.01	71.81	71.60	71.39	71.18	70.96	70.75
49	70.52	70.32	70.10	69.89	69.67	69.45	69.23	69.00	68.77	68.54	68.30	68.06
50	67.82	67.59	67.36	67.12	66.88	66.64	66.39	66.14	65.89	65.63	65.37	65.10
51	64.83	64.58	64.32	64.06	63.80	63.53	63.26	62.99	62.71	62.42	62.13	61.84
52	61.54	61.26	60.98	60.69	60.40	60.11	59.81	59.50	59.19	58.88	58.56	58.24
53	57.91	57.60	57.29	56.97	56.65	56.32	55.99	55.65	55.31	54.96	54.61	54.25
54	53.88	53.54	53.20	52.85	52.49	52.13	51.76	51.38	51.01	50.62	50.23	49.83
55	49.43	49.05	48.66	48.27	47.88	47.48	47.07	46.65	46.23	45.80	45.37	44.93
56	44.48	44.06	43.63	43.20	42.76	42.31	41.85	41.39	40.92	40.45	39.96	39.47
57	38.97	38.50	38.03	37.55	37.06	36.56	36.05	35.54	35.01	34.48	33.94	33.39
58	32.84	32.31	31.78	31.25	30.70	30.14	29.58	29.00	28.42	27.82	27.22	26.61
59	25.98	25.40	24.81	24.20	23.59	22.97	22.34	21.69	21.04	20.37	19.70	19.01
60	18.31	17.65	16.99	16.31	15.63	14.93	14.22	13.50	12.76	12.01	11.25	10.48
61	9.70	8.96	8.21	7.45	6.68	5.89	5.09	4.28	3.46	2.61	1.76	0.89
62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NOTE: Use this table to determine the benefit payable under the bridge option.

First determine the participant's age in years and months. Look up the reduction factor in the table. Use that amount to reduce the retiree's benefit per $100 of Age 62 Social Security benefit. For example, if an employee age 58 and 10 months with a $1,000 early retirement benefit has a $500 Social Security Benefit Payable at Age 62; then you would reduce his benefit by $136.10 ($27.22 x 5) for the post age 62 benefit or $863.90. The increased "Bridge" benefit from his early retirement to age 62 would be $1,363.90 ($500 + $863.90).

Exhibit H.   Five-year Certain and Life Annuity Conversion Factors

ARIZONA STATE RETIREMENT SYSTEM   BASIS(50/50 BLEND 83GAM,M(-1),F(NO ADJ),8)
5-YEAR CERTAIN AND LIFE ANNUITY CONVERSION FACTORS   EFFECTIVE 10/1/92
MONTHLY ANNUITY PER $1,000 OF DEATH BENEFIT TO ACTIVE MEMBER'S BENEFICIARY

AGE	0 MO	1 MO	2 MO	3 MO	4 MO	5 MO	6 MO	7 MO	8 MO	9 MO	10 MO	11 MO
10	6.4565	6.4568	6.4572	6.4575	6.4578	6.4582	6.4585	6.4588	6.4592	6.4595	6.4598	6.4602
11	6.4605	6.4609	6.4612	6.4616	6.4619	6.4623	6.4627	6.4630	6.4634	6.4637	6.4641	6.4644
12	6.4648	6.4652	6.4656	6.4660	6.4664	6.4668	6.4671	6.4675	6.4679	6.4683	6.4687	6.4691
13	6.4695	6.4699	6.4703	6.4707	6.4712	6.4716	6.4720	6.4724	6.4728	6.4732	6.4737	6.4741
14	6.4745	6.4749	6.4754	6.4758	6.4763	6.4767	6.4772	6.4776	6.4780	6.4785	6.4789	6.4794
15	6.4798	6.4803	6.4808	6.4812	6.4817	6.4822	6.4826	6.4831	6.4836	6.4841	6.4845	6.4850
16	6.4855	6.4860	6.4865	6.4870	6.4875	6.4880	6.4886	6.4891	6.4896	6.4901	6.4906	6.4911
17	6.4916	6.4922	6.4927	6.4932	6.4938	6.4943	6.4949	6.4954	6.4960	6.4965	6.4971	6.4976
18	6.4982	6.4988	6.4994	6.5000	6.5006	6.5012	6.5018	6.5023	6.5029	6.5035	6.5041	6.5047
19	6.5053	6.5059	6.5066	6.5072	6.5078	6.5084	6.5091	6.5097	6.5103	6.5109	6.5116	6.5122
20	6.5128	6.5135	6.5142	6.5148	6.5155	6.5162	6.5169	6.5175	6.5182	6.5189	6.5196	6.5202
21	6.5209	6.5216	6.5224	6.5231	6.5238	6.5245	6.5253	6.5260	6.5267	6.5274	6.5282	6.5289
22	6.5296	6.5304	6.5312	6.5319	6.5327	6.5335	6.5343	6.5350	6.5358	6.5366	6.5374	6.5381
23	6.5389	6.5397	6.5406	6.5414	6.5422	6.5431	6.5439	6.5447	6.5456	6.5464	6.5472	6.5481
24	6.5489	6.5498	6.5507	6.5516	6.5525	6.5534	6.5543	6.5551	6.5560	6.5569	6.5578	6.5587
25	6.5596	6.5606	6.5615	6.5625	6.5634	6.5644	6.5653	6.5663	6.5673	6.5682	6.5692	6.5701
26	6.5711	6.5721	6.5732	6.5742	6.5752	6.5762	6.5773	6.5783	6.5793	6.5803	6.5814	6.5824
27	6.5834	6.5845	6.5856	6.5867	6.5878	6.5889	6.5900	6.5911	6.5922	6.5933	6.5944	6.5955
28	6.5966	6.5978	6.5990	6.6002	6.6013	6.6025	6.6037	6.6049	6.6061	6.6073	6.6084	6.6096
29	6.6108	6.6121	6.6134	6.6146	6.6159	6.6172	6.6184	6.6197	6.6210	6.6223	6.6235	6.6248
30	6.6261	6.6275	6.6288	6.6302	6.6315	6.6329	6.6342	6.6356	6.6370	6.6383	6.6397	6.6410
31	6.6424	6.6439	6.6453	6.6468	6.6482	6.6497	6.6512	6.6526	6.6541	6.6555	6.6570	6.6584
32	6.6599	6.6615	6.6631	6.6646	6.6662	6.6678	6.6694	6.6709	6.6725	6.6741	6.6756	6.6772
33	6.6788	6.6805	6.6822	6.6839	6.6855	6.6872	6.6889	6.6906	6.6923	6.6939	6.6939	6.6973
34	6.6990	6.7008	6.7026	6.7044	6.7062	6.7080	6.7098	6.7116	6.7134	6.7152	6.7170	6.7188

AGE	0 MO	1 MO	2 MO	3 MO	4 MO	5 MO	6 MO	7 MO	8 MO	9 MO	10 MO	11 MO
35	6.7206	6.7225	6.7245	6.7264	6.7284	6.7303	6.7322	6.7342	6.7361	6.7381	6.7400	6.7420
36	6.7439	6.7460	6.7481	6.7502	6.7522	6.7543	6.7564	6.7585	6.7606	6.7626	6.7647	6.7668
37	6.7689	6.7711	6.7734	6.7756	6.7779	6.7801	6.7823	6.7846	6.7868	6.7891	6.7913	6.7936
38	6.7958	6.7982	6.8006	6.8030	6.8054	6.8078	6.8102	6.8126	6.8150	6.8174	6.8198	6.8222
39	6.8246	6.8272	6.8298	6.8323	6.8349	6.8375	6.8401	6.8427	6.8453	6.8478	6.8504	6.8530
40	6.8556	6.8584	6.8611	6.8639	6.8667	6.8694	6.8722	6.8750	6.8777	6.8805	6.8833	6.8860
41	6.8888	6.8918	6.8947	6.8977	6.9006	6.9036	6.9065	6.9095	6.9125	6.9154	6.9184	6.9213
42	6.9243	6.9275	6.9306	6.9338	6.9370	6.9401	6.9433	6.9465	6.9496	6.9528	6.9560	6.9591
43	6.9623	6.9657	6.9691	6.9724	6.9758	6.9792	6.9826	6.9859	6.9893	6.9927	6.9961	6.9994
44	7.0028	7.0064	7.0100	7.0136	7.0172	7.0208	7.0244	7.0281	7.0317	7.0353	7.0389	7.0425
45	7.0461	7.0499	7.0538	7.0576	7.0614	7.0653	7.0691	7.0729	7.0768	7.0806	7.0844	7.0883
46	7.0921	7.0962	7.1003	7.1044	7.1085	7.1126	7.1167	7.1207	7.1248	7.1289	7.1330	7.1371
47	7.1412	7.1456	7.1499	7.1542	7.1586	7.1629	7.1673	7.1716	7.1760	7.1803	7.1847	7.1890
48	7.1934	7.1980	7.2027	7.2073	7.2120	7.2166	7.2213	7.2259	7.2305	7.2352	7.2398	7.2445
49	7.2491	7.2540	7.2590	7.2639	7.2689	7.2738	7.2787	7.2837	7.2886	7.2936	7.2985	7.3035
50	7.3084	7.3137	7.3190	7.3242	7.3295	7.3348	7.3401	7.3453	7.3506	7.3559	7.3612	7.3664
51	7.3717	7.3773	7.3830	7.3886	7.3943	7.3999	7.4055	7.4112	7.4168	7.4225	7.4281	7.4338
52	7.4394	7.4454	7.4515	7.4575	7.4636	7.4696	7.4756	7.4817	7.4877	7.4938	7.4998	7.5059
53	7.5119	7.5184	7.5249	7.5314	7.5378	7.5443	7.5508	7.5573	7.5638	7.5703	7.5767	7.5832
54	7.5897	7.5967	7.6036	7.6106	7.6175	7.6245	7.6315	7.6384	7.6454	7.6523	7.6593	7.6662
55	7.6732	7.6807	7.6882	7.6956	7.7031	7.7106	7.7181	7.7256	7.7331	7.7405	7.7480	7.7555
56	7.7630	7.7711	7.7791	7.7872	7.7952	7.8033	7.8114	7.8194	7.8275	7.8355	7.8436	7.8516
57	7.8597	7.8684	7.8771	7.8857	7.8944	7.9031	7.9118	7.9204	7.9291	7.9378	7.9465	7.9551
58	7.9638	7.9731	7.9825	7.9918	8.0011	8.0105	8.0198	8.0291	8.0385	8.0478	8.0571	8.0665
59	8.0758	8.0858	8.0959	8.1059	8.1160	8.1260	8.1361	8.1461	8.1562	8.1662	8.1763	8.1863
60	8.1964	8.2072	8.2180	8.2288	8.2396	8.2504	8.2612	8.2720	8.2828	8.2936	8.3044	8.3152
61	8.3260	8.3376	8.3492	8.3608	8.3724	8.3840	8.3956	8.4072	8.4188	8.4304	8.4420	8.4536
62	8.4652	8.4776	8.4901	8.5025	8.5150	8.5274	8.5399	8.5523	8.5647	8.5772	8.5896	8.6021
63	8.6145	8.6278	8.6412	8.6545	8.6678	8.6811	8.6945	8.7078	8.7211	8.7344	8.7478	8.7611
64	8.7744	8.7886	8.8029	8.8171	8.8314	8.8456	8.8599	8.8741	8.8883	8.9026	8.9168	8.9311
65	8.9453	8.9605	8.9757	8.9909	9.0061	9.0213	9.0365	9.0517	9.0669	9.0821	9.0973	9.1125
66	9.1277	9.1439	9.1601	9.1763	9.1924	9.2086	9.2248	9.2410	9.2572	9.2734	9.2895	9.3057
67	9.3219	9.3391	9.3563	9.3735	9.3908	9.4080	9.4252	9.4424	9.4596	9.4768	9.4941	9.5113
68	9.5285	9.5468	9.5651	9.5834	9.6017	9.6200	9.6383	9.6566	9.6749	9.6932	9.7115	9.7298
69	9.7481	9.7675	9.7869	9.8064	9.8258	9.8452	9.8646	9.8840	9.9034	9.9228	9.9423	9.9617
70	9.9811	10.0017	10.0223	10.0429	10.0635	10.0841	10.1046	10.1252	10.1458	10.1664	10.1870	10.2076
71	10.2282	10.2500	10.2718	10.2936	10.3154	10.3372	10.3590	10.3807	10.4025	10.4243	10.4461	10.4679
72	10.4897	10.5127	10.5357	10.5588	10.5818	10.6048	10.6278	10.6508	10.6738	10.6969	10.7199	10.7429
73	10.7659	10.7901	10.8143	10.8385	10.8627	10.8869	10.9112	10.9354	10.9596	10.9838	11.0080	11.0322
74	11.0564	11.0818	11.1071	11.1325	11.1578	11.1832	11.2085	11.2339	11.2593	11.2846	11.3100	11.3353
75	11.3607	11.3871	11.4135	11.4400	11.4664	11.4928	11.5192	11.5457	11.5721	11.5985	11.6249	11.6514
76	11.6778	11.7052	11.7326	11.7600	11.7874	11.8148	11.8421	11.8695	11.8969	11.9243	11.9517	11.9791
77	12.0065	12.0348	12.0630	12.0913	12.1195	12.1478	12.1760	12.2043	12.2325	12.2608	12.2890	12.3173
78	12.3455	12.3745	12.4035	12.4325	12.4615	12.4905	12.5194	12.5484	12.5774	12.6064	12.6354	12.6644
79	12.6934	12.7231	12.7527	12.7824	12.8120	12.8417	12.8713	12.9010	12.9306	12.9603	12.9899	13.0196
80	13.0492	13.0794	13.1096	13.1399	13.1701	13.2003	13.2305	13.2607	13.2909	13.3211	13.3514	13.3816
81	13.4118	13.4425	13.4732	13.5040	13.5347	13.5654	13.5961	13.6268	13.6575	13.6883	13.7190	13.7497
82	13.7804	13.8116	13.8427	13.8739	13.9050	13.9362	13.9673	13.9985	14.0296	14.0608	14.0919	14.1231
83	14.1542	14.1857	14.2173	14.2488	14.2803	14.3119	14.3434	14.3749	14.4065	14.4380	14.4695	14.5011
84	14.5326	14.5645	14.5963	14.6282	14.6601	14.6919	14.7238	14.7557	14.7875	14.8194	14.8513	14.8831
85	14.9150	14.9471	14.9792	15.0113	15.0434	15.0755	15.1076	15.1397	15.1718	15.2039	15.2360	15.2681
86	15.3002	15.3324	15.3645	15.3967	15.4288	15.4610	15.4932	15.5253	15.5575	15.5896	15.6218	15.6539
87	15.6861	15.7182	15.7503	15.7823	15.8144	15.8465	15.8786	15.9106	15.9427	15.9748	16.0069	16.0389
88	16.0710	16.1028	16.1346	16.1664	16.1981	16.2299	16.2617	16.2935	16.3253	16.3571	16.3888	16.4206
89	16.4524	16.4836	16.5148	16.5460	16.5772	16.6084	16.6396	16.6708	16.7020	16.7332	16.7644	16.7956
90	16.8268	16.8571	16.8874	16.9177	16.9480	16.9783	17.0087	17.0390	17.0693	17.0996	17.1299	17.1602
91	17.1905	17.2196	17.2488	17.2779	17.3071	17.3362	17.3654	17.3945	17.4236	17.4528	17.4819	17.5111
92	17.5402	17.5680	17.5958	17.6235	17.6513	17.6791	17.7069	17.7346	17.7624	17.7902	17.8180	17.8457
93	17.8735	17.8998	17.9260	17.9523	17.9785	18.0048	18.0310	18.0573	18.0835	18.1098	18.1360	18.1623

AGE	0 MO	1 MO	2 MO	3 MO	4 MO	5 MO	6 MO	7 MO	8 MO	9 MO	10 MO	11 MO
94	18.1885	18.2129	18.2373	18.2617	18.2861	18.3105	18.3349	18.3593	18.3837	18.4081	18.4325	18.4569
95	18.4813	18.5037	18.5261	18.5485	18.5709	18.5933	18.6157	18.6381	18.6605	18.6829	18.7053	18.7277
96	18.7501	18.7706	18.7910	18.8115	18.8320	18.8524	18.8729	18.8934	18.9138	18.9343	18.9548	18.9752
97	18.9957	19.0141	19.0326	19.0510	19.0695	19.0879	19.1064	19.1248	19.1432	19.1617	19.1801	19.1986
98	19.2170	19.2333	19.2497	19.2660	19.2823	19.2986	19.3150	19.3313	19.3476	19.3639	19.3803	19.3966
99	19.4129	19.4270	19.4412	19.4553	19.4694	19.4836	19.4977	19.5118	19.5260	19.5401	19.5542	19.5684

Exhibit I.   Ten-year Certain and Life Annuity Conversion Factors

ARIZONA STATE RETIREMENT SYSTEM   BASIS(50/50 BLEND 83GAM,M(-1),F(NO ADJ),8%)
10-YEAR CERTAIN AND LIFE ANNUITY CONVERSION FACTORS   EFFECTIVE 10/1/92
MONTHLY ANNUITY PER $1,000 OF DEATH BENEFIT TO ACTIVE MEMBER'S BENEFICIARY

AGE	0 MO	1 MO	2 MO	3 MO	4 MO	5 MO	6 MO	7 MO	8 MO	9 MO	10 MO	11 MO
10	6.4549	6.4552	6.4556	6.4559	6.4562	6.4565	6.4569	6.4572	6.4575	6.4578	6.4582	6.4585
11	6.4588	6.4592	6.4595	6.4599	6.4602	6.4606	6.4610	6.4613	6.4617	6.4620	6.4624	6.4627
12	6.4631	6.4635	6.4639	6.4642	6.4646	6.4650	6.4654	6.4657	6.4661	6.4665	6.4669	6.4672
13	6.4676	6.4680	6.4684	6.4688	6.4692	6.4696	6.4701	6.4705	6.4709	6.4713	6.4717	6.4721
14	6.4725	6.4729	6.4734	6.4738	6.4742	6.4747	6.4751	6.4755	6.4760	6.4764	6.4768	6.4773
15	6.4777	6.4782	6.4786	6.4791	6.4796	6.4800	6.4805	6.4810	6.4814	6.4819	6.4824	6.4828
16	6.4833	6.4838	6.4843	6.4848	6.4853	6.4858	6.4863	6.4868	6.4873	6.4878	6.4883	6.4888
17	6.4893	6.4898	6.4904	6.4909	6.4914	6.4920	6.4925	6.4930	6.4936	6.4941	6.4946	6.4952
18	6.4957	6.4963	6.4969	6.4974	6.4980	6.4986	6.4992	6.4997	6.5003	6.5009	6.5015	6.5020
19	6.5026	6.5032	6.5038	6.5045	6.5051	6.5057	6.5063	6.5069	6.5075	6.5082	6.5088	6.5094
20	6.5100	6.5107	6.5113	6.5120	6.5126	6.5133	6.5139	6.5146	6.5153	6.5159	6.5166	6.5172
21	6.5179	6.5186	6.5193	6.5200	6.5207	6.5214	6.5222	6.5229	6.5236	6.5243	6.5250	6.5257
22	6.5264	6.5272	6.5279	6.5287	6.5294	6.5302	6.5310	6.5317	6.5325	6.5332	6.5340	6.5347
23	6.5355	6.5363	6.5371	6.5379	6.5387	6.5395	6.5404	6.5412	6.5420	6.5428	6.5436	6.5444
24	6.5452	6.5461	6.5470	6.5478	6.5487	6.5496	6.5504	6.5513	6.5522	6.5531	6.5539	6.5548
25	6.5557	6.5566	6.5576	6.5585	6.5594	6.5604	6.5613	6.5622	6.5632	6.5641	6.5650	6.5660
26	6.5669	6.5679	6.5689	6.5699	6.5709	6.5719	6.5729	6.5739	6.5749	6.5759	6.5769	6.5779
27	6.5789	6.5800	6.5810	6.5821	6.5832	6.5842	6.5853	6.5864	6.5874	6.5885	6.5896	6.5906
28	6.5917	6.5929	6.5940	6.5952	6.5963	6.5975	6.5986	6.5998	6.6009	6.6021	6.6032	6.6044
29	6.6055	6.6067	6.6080	6.6092	6.6104	6.6117	6.6129	6.6141	6.6154	6.6166	6.6178	6.6191
30	6.6203	6.6216	6.6229	6.6243	6.6256	6.6269	6.6282	6.6296	6.6309	6.6322	6.6335	6.6349
31	6.6362	6.6376	6.6390	6.6404	6.6419	6.6433	6.6447	6.6461	6.6475	6.6489	6.6504	6.6518
32	6.6532	6.6547	6.6562	6.6577	6.6593	6.6608	6.6623	6.6638	6.6653	6.6668	6.6684	6.6699
33	6.6714	6.6730	6.6747	6.6763	6.6779	6.6795	6.6811	6.6828	6.6844	6.6860	6.6876	6.6893
34	6.6909	6.6926	6.6944	6.6961	6.6979	6.6996	6.7014	6.7031	6.7048	6.7066	6.7083	6.7101
35	6.7118	6.7137	6.7155	6.7174	6.7193	6.7211	6.7230	6.7249	6.7267	6.7286	6.7305	6.7323
36	6.7342	6.7362	6.7382	6.7402	6.7422	6.7442	6.7462	6.7482	6.7502	6.7522	6.7542	6.7562
37	6.7582	6.7603	6.7625	6.7646	6.7667	6.7689	6.7710	6.7731	6.7753	6.7774	6.7795	6.7817
38	6.7838	6.7861	6.7884	6.7907	6.7929	6.7952	6.7975	6.7998	6.8021	6.8044	6.8066	6.8089
39	6.8112	6.8136	6.8161	6.8185	6.8209	6.8234	6.8258	6.8282	6.8307	6.8331	6.8355	6.8380
40	6.8404	6.8430	6.8456	6.8482	6.8508	6.8534	6.8560	6.8586	6.8612	6.8638	6.8664	6.8690
41	6.8716	6.8744	6.8771	6.8799	6.8827	6.8855	6.8882	6.8910	6.8938	6.8966	6.8993	6.9021
42	6.9049	6.9079	6.9108	6.9138	6.9167	6.9197	6.9226	6.9256	6.9285	6.9315	6.9344	6.9374
43	6.9403	6.9434	6.9466	6.9497	6.9529	6.9560	6.9592	6.9623	6.9654	6.9686	6.9717	6.9749
44	6.9780	6.9813	6.9847	6.9880	6.9914	6.9947	6.9980	7.0014	7.0047	7.0081	7.0114	7.0148
45	7.0181	7.0216	7.0252	7.0287	7.0323	7.0358	7.0394	7.0429	7.0465	7.0500	7.0536	7.0571
46	7.0607	7.0645	7.0683	7.0720	7.0758	7.0796	7.0834	7.0871	7.0909	7.0947	7.0985	7.1022
47	7.1060	7.1100	7.1140	7.1180	7.1220	7.1260	7.1300	7.1341	7.1381	7.1421	7.1461	7.1501
48	7.1541	7.1584	7.1626	7.1669	7.1712	7.1754	7.1797	7.1840	7.1882	7.1925	7.1968	7.2010
49	7.2053	7.2098	7.2144	7.2189	7.2235	7.2280	7.2325	7.2371	7.2416	7.2462	7.2507	7.2553
50	7.2598	7.2646	7.2695	7.2743	7.2791	7.2839	7.2888	7.2936	7.2984	7.3032	7.3081	7.3129
51	7.3177	7.3229	7.3280	7.3332	7.3383	7.3435	7.3486	7.3538	7.3589	7.3641	7.3692	7.3744

AGE	0 MO	1 MO	2 MO	3 MO	4 MO	5 MO	6 MO	7 MO	8 MO	9 MO	10 MO	11 MO
52	7.3795	7.3850	7.3905	7.3960	7.4015	7.4070	7.4125	7.4179	7.4234	7.4289	7.4344	7.4399
53	7.4454	7.4513	7.4571	7.4629	7.4688	7.4746	7.4805	7.4863	7.4922	7.4980	7.5039	7.5097
54	7.5156	7.5218	7.5281	7.5343	7.5406	7.5468	7.5531	7.5593	7.5655	7.5718	7.5780	7.5843
55	7.5905	7.5971	7.6038	7.6104	7.6171	7.6237	7.6304	7.6370	7.6436	7.6503	7.6569	7.6636
56	7.6702	7.6773	7.6844	7.6915	7.6985	7.7056	7.7127	7.7198	7.7269	7.7339	7.7410	7.7481
57	7.7552	7.7627	7.7703	7.7778	7.7853	7.7928	7.8004	7.8079	7.8154	7.8229	7.8305	7.8380
58	7.8455	7.8535	7.8615	7.8695	7.8775	7.8855	7.8934	7.9014	7.9094	7.9174	7.9254	7.9334
59	7.9414	7.9499	7.9583	7.9668	7.9753	7.9838	7.9922	8.0007	8.0092	8.0177	8.0262	8.0346
60	8.0431	8.0521	8.0610	8.0700	8.0789	8.0879	8.0968	8.1058	8.1147	8.1237	8.1326	8.1416
61	8.1505	8.1599	8.1694	8.1788	8.1883	8.1977	8.2072	8.2166	8.2261	8.2355	8.2450	8.2544
62	8.2639	8.2738	8.2838	8.2937	8.3036	8.3136	8.3235	8.3334	8.3434	8.3533	8.3632	8.3732
63	8.3831	8.3935	8.4039	8.4143	8.4248	8.4352	8.4456	8.4560	8.4664	8.4768	8.4873	8.4977
64	8.5081	8.5190	8.5299	8.5408	8.5517	8.5626	8.5734	8.5843	8.5952	8.6061	8.6170	8.6279
65	8.6388	8.6502	8.6615	8.6729	8.6842	8.6956	8.7069	8.7183	8.7296	8.7410	8.7523	8.7637
66	8.7750	8.7868	8.7985	8.8103	8.8220	8.8338	8.8455	8.8573	8.8691	8.8808	8.8926	8.9043
67	8.9161	8.9283	8.9404	8.9526	8.9647	8.9769	8.9890	9.0012	9.0133	9.0255	9.0376	9.0498
68	9.0619	9.0744	9.0869	9.0993	9.1118	9.1243	9.1368	9.1492	9.1617	9.1742	9.1867	9.1991
69	9.2116	9.2244	9.2371	9.2499	9.2626	9.2754	9.2882	9.3009	9.3137	9.3264	9.3392	9.3519
70	9.3647	9.3777	9.3907	9.4036	9.4166	9.4296	9.4426	9.4555	9.4685	9.4815	9.4945	9.5074
71	9.5204	9.5335	9.5466	9.5597	9.5728	9.5859	9.5991	9.6122	9.6253	9.6384	9.6515	9.6646
72	9.6777	9.6909	9.7041	9.7172	9.7304	9.7436	9.7568	9.7699	9.7831	9.7963	9.8095	9.8226
73	9.8358	9.8489	9.8621	9.8752	9.8883	9.9015	9.9146	9.9277	9.9409	9.9540	9.9671	9.9803
74	9.9934	10.0064	10.0194	10.0325	10.0455	10.0585	10.0715	10.0845	10.0975	10.1106	10.1236	10.1366
75	10.1496	10.1624	10.1752	10.1879	10.2007	10.2135	10.2263	10.2391	10.2519	10.2646	10.2774	10.2902
76	10.3030	10.3155	10.3280	10.3404	10.3529	10.3654	10.3779	10.3903	10.4028	10.4153	10.4278	10.4402
77	10.4527	10.4648	10.4769	10.4889	10.5010	10.5131	10.5252	10.5373	10.5494	10.5614	10.5735	10.5856
78	10.5977	10.6093	10.6209	10.6325	10.6441	10.6557	10.6673	10.6790	10.6906	10.7022	10.7138	10.7254
79	10.7370	10.7481	10.7592	10.7703	10.7813	10.7924	10.8035	10.8146	10.8257	10.8368	10.8478	10.8589
80	10.8700	10.8805	10.8910	10.9015	10.9120	10.9225	10.9330	10.9434	10.9539	10.9644	10.9749	10.9854
81	10.9959	11.0058	11.0156	11.0255	11.0353	11.0452	11.0551	11.0649	11.0748	11.0846	11.0945	11.1043
82	11.1142	11.1234	11.1326	11.1417	11.1509	11.1601	11.1693	11.1784	11.1876	11.1968	11.2060	11.2151
83	11.2243	11.2328	11.2413	11.2497	11.2582	11.2667	11.2752	11.2836	11.2921	11.3006	11.3091	11.3175
84	11.3260	11.3338	11.3415	11.3493	11.3570	11.3647	11.3725	11.3802	11.3880	11.3957	11.4035	11.4112
85	11.4190	11.4260	11.4330	11.4400	11.4470	11.4540	11.4610	11.4680	11.4750	11.4820	11.4890	11.4960
86	11.5030	11.5092	11.5155	11.5217	11.5279	11.5341	11.5404	11.5466	11.5528	11.5590	11.5653	11.5715
87	11.5777	11.5832	11.5886	11.5941	11.5996	11.6050	11.6105	11.6160	11.6214	11.6269	11.6324	11.6378
88	11.6433	11.6480	11.6528	11.6575	11.6622	11.6670	11.6717	11.6764	11.6812	11.6859	11.6906	11.6954
89	11.7001	11.7041	11.7081	11.7122	11.7162	11.7202	11.7242	11.7282	11.7322	11.7363	11.7403	11.7443
90	11.7483	11.7517	11.7550	11.7583	11.7617	11.7650	11.7684	11.7717	11.7751	11.7784	11.7818	11.7851
91	11.7885	11.7912	11.7940	11.7967	11.7994	11.8022	11.8049	11.8076	11.8104	11.8131	11.8158	11.8186
92	11.8213	11.8235	11.8257	11.8279	11.8301	11.8323	11.8345	11.8366	11.8388	11.8410	11.8432	11.8454
93	11.8476	11.8493	11.8510	11.8527	11.8544	11.8561	11.8577	11.8594	11.8611	11.8628	11.8645	11.8662
94	11.8679	11.8692	11.8704	11.8717	11.8730	11.8742	11.8755	11.8768	11.8780	11.8793	11.8806	11.8818
95	11.8831	11.8840	11.8849	11.8858	11.8867	11.8876	11.8885	11.8894	11.8903	11.8912	11.8921	11.8930
96	11.8939	11.8945	11.8951	11.8957	11.8963	11.8969	11.8976	11.8982	11.8988	11.8994	11.9000	11.9006
97	11.9012	11.9016	11.9020	11.9023	11.9027	11.9031	11.9035	11.9038	11.9042	11.9046	11.9050	11.9053
98	11.9057	11.9059	11.9061	11.9063	11.9065	11.9067	11.9069	11.9072	11.9074	11.9076	11.9078	11.9080
99	11.9082	11.9082	11.9081	11.9081	11.9080	11.9080	11.9080	11.9079	11.9079	11.9078	11.9078	11.9077

Exhibit J. **15-year Certain and Life Annuity Conversion Factors**

ARIZONA STATE RETIREMENT SYSTEM   BASIS(50/50 BLEND 83GAM,M(-1),F(NO ADJ),8%)
15-YEAR CERTAIN AND LIFE ANNUITY CONVERSION FACTORS   EFFECTIVE lO/1/92
MONTHLY ANNUITY PER $1,000 OF DEATH BENEFIT TO ACTIVE MEMBER'S BENEFICIARY

AGE	0 MO	1 MO	2 MO	3 MO	4 MO	5 MO	6 MO	7 MO	8 MO	9 MO	10 MO	11 MO
10	6.4525	6.4528	6.4531	6.4534	6.4538	6.4541	6.4544	6.4547	6.4550	6.4553	6.4557	6.4560
11	6.4563	6.4566	6.4570	6.4573	6.4577	6.4580	6.4583	6.4587	6.4590	6.4594	6.4597	6.4601
12	6.4604	6.4608	6.4611	6.4615	6.4619	6.4622	6.4626	6.4630	6.4633	6.4637	6.4641	6.4644
13	6.4648	6.4652	6.4656	6.4660	6.4664	6.4668	6.4672	6.4676	6.4680	6.4684	6.4688	6.4692
14	6.4696	6.4700	6.4704	6.4708	6.4713	6.4717	6.4721	6.4725	6.4729	6.4733	6.4738	6.4742
15	6.4746	6.4751	6.4755	6.4760	6.4764	6.4769	6.4774	6.4778	6.4783	6.4787	6.4792	6.4796
16	6.4801	6.4806	6.4811	6.4816	6.4820	6.4825	6.4830	6.4835	6.4840	6.4845	6.4849	6.4854
17	6.4859	6.4864	6.4869	6.4875	6.4880	6.4885	6.4890	6.4895	6.4900	6.4906	6.4911	6.4916
18	6.4921	6.4927	6.4932	6.4938	6.4943	6.4949	6.4954	6.4960	6.4965	6.4971	6.4976	6.4982
19	6.4987	6.4993	6.4999	6.5005	6.5011	6.5017	6.5023	6.5029	6.5035	6.5041	6.5047	6.5053
20	6.5059	6.5065	6.5072	6.5078	6.5084	6.5091	6.5097	6.5103	6.5110	6.5116	6.5122	6.5129
21	6.5135	6.5142	6.5149	6.5156	6.5162	6.5169	6.5176	6.5183	6.5190	6.5197	6.5203	6.5210
22	6.5217	6.5224	6.5232	6.5239	6.5246	6.5253	6.5261	6.5268	6.5275	6.5282	6.5290	6.5297
23	6.5304	6.5312	6.5320	6.5328	6.5335	6.5343	6.5351	6.5359	6.5367	6.5375	6.5382	6.5390
24	6.5398	6.5406	6.5415	6.5423	6.5432	6.5440	6.5449	6.5457	6.5465	6.5474	6.5482	6.5491
25	6.5499	6.5508	6.5517	6.5526	6.5535	6.5544	6.5553	6.5561	6.5570	6.5579	6.5588	6.5597
26	6.5606	6.5616	6.5625	6.5635	6.5644	6.5654	6.5663	6.5673	6.5683	6.5692	6.5702	6.5711
27	6.5721	6.5731	6.5742	6.5752	6.5762	6.5773	6.5783	6.5793	6.5804	6.5814	6.5824	6.5835
28	6.5845	6.5856	6.5867	6.5878	6.5889	6.5900	6.5911	6.5922	6.5933	6.5944	6.5955	6.5966
29	6.5977	6.5989	6.6000	6.6012	6.6024	6.6036	6.6047	6.6059	6.6071	6.6083	6.6094	6.6106
30	6.6118	6.6131	6.6143	6.6156	6.6168	6.6181	6.6194	6.6206	6.6219	6.6231	6.6244	6.6256
31	6.6269	6.6282	6.6296	6.6309	6.6323	6.6336	6.6350	6.6363	6.6376	6.6390	6.6403	6.6417
32	6.6430	6.6444	6.6459	6.6473	6.6487	6.6502	6.6516	6.6530	6.6545	6.6559	6.6573	6.6588
33	6.6602	6.6617	6.6633	6.6648	6.6663	6.6678	6.6694	6.6709	6.6724	6.6739	6.6755	6.6770
34	6.6785	6.6801	6.6817	6.6834	6.6850	6.6866	6.6882	6.6899	6.6915	6.6931	6.6947	6.6964
35	6.6980	6.6997	6.7015	6.7032	6.7049	6.7067	6.7084	6.7101	6.7119	6.7136	6.7153	6.7171
36	6.7188	6.7207	6.7225	6.7244	6.7262	6.7281	6.7299	6.7318	6.7336	6.7355	6.7373	6.7392
37	6.7410	6.7430	6.7449	6.7469	6.7488	6.7508	6.7528	6.7547	6.7567	6.7586	6.7606	6.7625
38	6.7645	6.7666	6.7687	6.7708	6.7729	6.7750	6.7771	6.7791	6.7812	6.7833	6.7854	6.7875
39	6.7896	6.7918	6.7941	6.7963	6.7985	6.8007	6.8030	6.8052	6.8074	6.8096	6.8119	6.8141
40	6.8163	6.8187	6.8210	6.8234	6.8257	6.8281	6.8305	6.8328	6.8352	6.8375	6.8399	6.8422
41	6.8446	6.8471	6.8496	6.8521	6.8546	6.8571	6.8596	6.8622	6.8647	6.8672	6.8697	6.8722
42	6.8747	6.8774	6.8800	6.8827	6.8853	6.8880	6.8907	6.8933	6.8960	6.8986	6.9013	6.9039
43	6.9066	6.9094	6.9122	6.9151	6.9179	6.9207	6.9235	6.9264	6.9292	6.9320	6.9348	6.9377
44	6.9405	6.9435	6.9465	6.9495	6.9525	6.9555	6.9584	6.9614	6.9644	6.9674	6.9704	6.9734
45	6.9764	6.9796	6.9827	6.9859	6.9891	6.9922	6.9954	6.9986	7.0017	7.0049	7.0081	7.0112
46	7.0144	7.0178	7.0211	7.0245	7.0278	7.0312	7.0346	7.0379	7.0413	7.0446	7.0480	7.0513
47	7.0547	7.0583	7.0618	7.0654	7.0689	7.0724	7.0760	7.0795	7.0831	7.0866	7.0902	7.0937
48	7.0973	7.1011	7.1048	7.1086	7.1123	7.1161	7.1198	7.1236	7.1273	7.1311	7.1348	7.1386
49	7.1423	7.1463	7.1502	7.1542	7.1582	7.1621	7.1661	7.1701	7.1740	7.1780	7.1820	7.1859
50	7.1899	7.1941	7.1983	7.2025	7.2067	7.2109	7.2150	7.2192	7.2234	7.2276	7.2318	7.2360
51	7.2402	7.2446	7.2490	7.2535	7.2579	7.2623	7.2667	7.2711	7.2755	7.2800	7.2844	7.2888
52	7.2932	7.2978	7.3025	7.3071	7.3118	7.3164	7.3211	7.3257	7.3304	7.3350	7.3397	7.3443
53	7.3490	7.3539	7.3588	7.3637	7.3686	7.3735	7.3784	7.3833	7.3882	7.3931	7.3980	7.4029
54	7.4078	7.4129	7.4181	7.4232	7.4283	7.4335	7.4386	7.4437	7.4489	7.4540	7.4591	7.4643
55	7.4694	7.4748	7.4802	7.4856	7.4909	7.4963	7.5017	7.5071	7.5125	7.5179	7.5232	7.5286
56	7.5340	7.5396	7.5453	7.5509	7.5565	7.5622	7.5678	7.5734	7.5791	7.5847	7.5903	7.5960
57	7.6016	7.6075	7.6133	7.6192	7.6251	7.6309	7.6368	7.6427	7.6485	7.6544	7.6603	7.6661
58	7.6720	7.6781	7.6842	7.6903	7.6964	7.7025	7.7085	7.7146	7.7207	7.7268	7.7329	7.7390
59	7.7451	7.7514	7.7577	7.7640	7.7703	7.7766	7.7829	7.7893	7.7956	7.8019	7.8082	7.8145
60	7.8208	7.8273	7.8338	7.8403	7.8468	7.8533	7.8599	7.8664	7.8729	7.8794	7.885~	7.8924
61	7.8989	7.9056	7.9123	7.9189	7.9256	7.9323	7.9390	7.9456	7.9523	7.9590	7.9657	7.9723
62	7.9790	7.9858	7.9926	7.9994	8.0062	8.0130	8.0198	8.0266	8.0334	8.0402	8.0470	8.0538
63	8.0606	8.0675	8.0744	8.0813	8.0882	8.0951	8.1021	8.1090	8.1159	8.1228	8.1297	8.1366

AGE	0 MO	1 MO	2 MO	3 MO	4 MO	5 MO	6 MO	7 MO	8 MO	9 MO	10 MO	11 MO
64	8.1435	8.1505	8.1574	8.1644	8.1713	8.1783	8.1853	8.1922	8.1992	8.2061	8.2131	8.2200
65	8.2270	8.2340	8.2409	8.2479	8.2548	8.2618	8.2688	8.2757	8.2827	8.2896	8.2966	8.3035
66	8.3105	8.3174	8.3243	8.3312	8.3381	8.3450	8.3520	8.3589	8.3658	8.3727	8.3796	8.3865
67	8.3934	8.4002	8.4070	8.4138	8.4206	8.4274	8.4343	8.4411	8.4479	8.4547	8.4615	8.4683
68	8.4751	8.4818	8.4884	8.4951	8.5018	8.5084	8.5151	8.5218	8.5284	8.5351	8.5418	8.5484
69	8.5551	8.5616	8.5680	8.5745	8.5810	8.5874	8.5939	8.6004	8.6068	8.6133	8.6198	8.6262
70	8.6327	8.6389	8.6452	8.6514	8.6576	8.6638	8.6701	8.6763	8.6825	8.6887	8.6950	8.7012
71	8.7074	8.7134	8.7193	8.7253	8.7312	8.7372	8.7432	8.7491	8.7551	8.7610	8.7670	8.7729
72	8.7789	8.7845	8.7902	8.7958	8.8015	8.8071	8.8128	8.8184	8.8240	8.8297	8.8353	8.8410
73	8.8466	8.8519	8.8572	8.8625	8.8678	8.8731	8.8784	8.8836	8.8889	8.8942	8.8995	8.9048
74	8.9101	8.9150	8.9199	8.9249	8.9298	8.9347	8.9396	8.9445	8.9494	8.9543	8.9593	8.9642
75	8.9691	8.9736	8.9782	8.9827	8.9872	8.9917	8.9963	9.0008	9.0053	9.0098	9.0144	9.0189
76	9.0234	9.0275	9.0316	9.0357	9.0398	9.0439	9.0480	9.0522	9.0563	9.0604	9.0645	9.0686
77	9.0727	9.0764	9.0801	9.0837	9.0874	9.0911	9.0948	9.0985	9.1022	9.1058	9.1095	9.1132
78	9.1169	9.1202	9.1235	9.1267	9.1300	9.1333	9.1366	9.1398	9.1431	9.1464	9.1497	9.1529
79	9.1562	9.1591	9.1620	9.1648	9.1677	9.1706	9.1734	9.1763	9.1792	9.1821	9.1849	9.1878
80	9.1907	9.1932	9.1957	9.1981	9.2006	9.2031	9.2056	9.2080	9.2105	9.2130	9.2155	9.2179
81	9.2204	9.2225	9.2246	9.2267	9.2288	9.2309	9.2330	9.2351	9.2372	9.2393	9.2414	9.2435
82	9.2456	9.2474	9.2491	9.2509	9.2526	9.2544	9.2561	9.2579	9.2597	9.2614	9.2632	9.2649
83	9.2667	9.2681	9.2696	9.2710	9.2725	9.2739	9.2754	9.2768	9.2782	9.2797	9.2811	9.2826
84	9.2840	9.2852	9.2863	9.2875	9.2887	9.2898	9.2910	9.2922	9.2933	9.2945	9.2957	9.2968
85	9.2980	9.2989	9.2998	9.3008	9.3017	9.3026	9.3035	9.3044	9.3053	9.3063	9.3072	9.3081
86	9.3090	9.3097	9.3104	9.3111	9.3118	9.3125	9.3133	9.3140	9.3147	9.3154	9.3161	9.3168
87	9.3175	9.3180	9.3186	9.3191	9.3196	9.3201	9.3206	9.3212	9.3217	9.3222	9.3227	9.3233
88	9.3238	9.3242	9.3246	9.3250	9.3253	9.3257	9.3261	9.3265	9.3269	9.3273	9.3276	9.3280
89	9.3284	9.3287	9.3289	9.3292	9.3294	9.3297	9.3299	9.3302	9.3305	9.3307	9.3310	9.3312
90	9.3315	9.3317	9.3319	9.3320	9.3322	9.3324	9.3326	9.3327	9.3329	9.3331	9.3333	9.3334
91	9.3336	9.3337	9.3338	9.3339	9.3340	9.3341	9.3343	9.3344	9.3345	9.3346	9.3347	9.3348
92	9.3349	9.3350	9.3350	9.3350	9.3351	9.3351	9.3352	9.3352	9.3353	9.3353	9.3354	9.3354
93	9.3355	9.3355	9.3356	9.3356	9.3356	9.3357	9.3357	9.3357	9.3358	9.3358	9.3358	9.3359
94	9.3359	9.3359	9.3359	9.3359	9.3359	9.3359	9.3358	9.3358	9.3358	9.3358	9.3358	9.3358
95	9.3358	9.3358	9.3358	9.3358	9.3358	9.3358	9.3358	9.3358	9.3358	9.3358	9.3358	9.3358
96	9.3358	9.3358	9.3358	9.3358	9.3358	9.3358	9.3358	9.3357	9.3357	9.3357	9.3357	9.3357
97	9.3357	9.3357	9.3357	9.3357	9.3357	9.3357	9.3356	9.3356	9.3356	9.3356	9.3356	9.3356
98	9.3356	9.3356	9.3356	9.3355	9.3355	9.3355	9.3355	9.3355	9.3355	9.3355	9.3354	9.3354
99	9.3354	9.3354	9.3354	9.3353	9.3353	9.3353	9.3353	9.3352	9.3352	9.3352	9.3352	9.3351

Exhibit K. ~~Lump Sum Factors~~

~~Basis - 8%, 50/50 Blend 1983 GAM, M(-1), F(No adj.)~~
~~(Effective 10/1/92)~~

Age	
47 - 0	~~139.79508~~
47 - 1	~~139.70793~~
47 - 2	~~139.62078~~
47 - 3	~~139.53363~~
47 - 4	~~139.44648~~
47 - 5	~~139.35933~~
47 - 6	~~139.27218~~
47 - 7	~~139.18503~~
47 - 8	~~139.09788~~
47 - 9	~~139.01073~~
47 - 10	~~138.92358~~
47 - 11	~~138.83643~~
48 - 0	~~138.74928~~
48 - 1	~~138.65780~~
48 - 2	~~138.56632~~
48 - 3	~~138.47484~~
48 - 4	~~138.38336~~
48 - 5	~~138.29188~~
48 - 6	~~138.20040~~
48 - 7	~~138.10892~~
48 - 8	~~138.01744~~
48 - 9	~~137.92596~~
48 - 10	~~137.83448~~
48 - 11	~~137.74300~~
49 - 0	~~137.65152~~
49 - 1	~~137.55556~~
49 - 2	~~137.45960~~
49 - 3	~~137.36364~~
49 - 4	~~137.26768~~
49 - 5	~~137.17172~~
49 - 6	~~137.07576~~
49 - 7	~~136.97980~~
49 - 8	~~136.88384~~
49 - 9	~~136.78788~~
49 - 10	~~136.69192~~
49 - 11	~~136.59596~~
50 - 0	~~136.50000~~
50 - 1	~~136.39926~~
50 - 2	~~136.29852~~
50 - 3	~~136.19778~~
50 - 4	~~136.09704~~
50 - 5	~~135.99630~~
50 - 6	~~135.89556~~
50 - 7	~~135.79482~~
50 - 8	~~135.69408~~
50 - 9	~~135.59334~~
50 - 10	~~135.49260~~
50 - 11	~~135.39186~~

Age			
51 – 0	135.29112	53 – 0	132.68604
51 – 1	135.18529	53 – 1	132.56900
51 – 2	135.07946	53 – 2	132.45196
51 – 3	134.97363	53 – 3	132.33492
51 – 4	134.86780	53 – 4	132.21788
51 – 5	134.76197	53 – 5	132.10084
51 – 6	134.65614	53 – 6	131.98380
51 – 7	134.55031	53 – 7	131.86676
51 – 8	134.44448	53 – 8	131.74972
51 – 9	134.33865	53 – 9	131.63268
51 –10	134.23282	53 –10	131.51564
51 –11	134.12699	53 –11	131.39860
52 – 0	134.02116	54 – 0	131.28156
52 – 1	133.90990	54 – 1	131.15840
52 – 2	133.79864	54 – 2	131.03524
52 – 3	133.68738	54 – 3	130.91208
52 – 4	133.57612	54 – 4	130.78892
52 – 5	133.46486	54 – 5	130.66576
52 – 6	133.35360	54 – 6	130.54260
52 – 7	133.24234	54 – 7	130.41944
52 – 8	133.13108	54 – 8	130.29628
52 – 9	133.01982	54 – 9	130.17312
52 –10	132.90856	54 –10	130.04996
52 –11	132.79730	54 –11	129.92680

Age		Age	
55 - 0	129.80364	60 - 0	121.17432
55 - 1	129.67400	60 - 1	121.00843
55 - 2	129.54436	60 - 2	120.84254
55 - 3	129.41472	60 - 3	120.67665
55 - 4	129.28508	60 - 4	120.51076
55 - 5	129.15544	60 - 5	120.34487
55 - 6	129.02580	60 - 6	120.17898
55 - 7	128.89616	60 - 7	120.01309
55 - 8	128.76652	60 - 8	119.84720
55 - 9	128.63688	60 - 9	119.68131
55 - 10	128.50724	60 - 10	119.51542
55 - 11	128.37760	60 - 11	119.34953
56 - 0	128.24796	61 - 0	119.18364
56 - 1	128.11147	61 - 1	119.01030
56 - 2	127.97498	61 - 2	118.83696
56 - 3	127.83849	61 - 3	118.66362
56 - 4	127.70200	61 - 4	118.49028
56 - 5	127.56551	61 - 5	118.31694
56 - 6	127.42902	61 - 6	118.14360
56 - 7	127.29253	61 - 7	117.97026
56 - 8	127.15604	61 - 8	117.79692
56 - 9	127.01955	61 - 9	117.62358
56 - 10	126.88306	61 - 10	117.45024
56 - 11	126.74657	61 - 11	117.27690
57 - 0	126.61008	62 - 0	117.10356
57 - 1	126.46646	62 - 1	116.92294
57 - 2	126.32284	62 - 2	116.74232
57 - 3	126.17922	62 - 3	116.56170
57 - 4	126.03560	62 - 4	116.38108
57 - 5	125.89198	62 - 5	116.20046
57 - 6	125.74836	62 - 6	116.01984
57 - 7	125.60474	62 - 7	115.83922
57 - 8	125.46112	62 - 8	115.65860
57 - 9	125.31750	62 - 9	115.47798
57 - 10	125.17388	62 - 10	115.29736
57 - 11	125.03026	62 - 11	115.11674
58 - 0	124.88664	63 - 0	114.93612
58 - 1	124.73568	63 - 1	114.74845
58 - 2	124.58472	63 - 2	114.56078
58 - 3	124.43376	63 - 3	114.37311
58 - 4	124.28280	63 - 4	114.18544
58 - 5	124.13184	63 - 5	113.99777
58 - 6	123.98088	63 - 6	113.81010
58 - 7	123.82992	63 - 7	113.62243
58 - 8	123.67896	63 - 8	113.43476
58 - 9	123.52800	63 - 9	113.24709
58 - 10	123.37704	63 - 10	113.05942
58 - 11	123.22608	63 - 11	112.87175
59 - 0	123.07512	64 - 0	112.68408
59 - 1	122.91672	64 - 1	112.48975
59 - 2	122.75832	64 - 2	112.29542
59 - 3	122.59992	64 - 3	112.10109
59 - 4	122.44152	64 - 4	111.90676
59 - 5	122.28312	64 - 5	111.71243
59 - 6	122.12472	64 - 6	111.51810
59 - 7	121.96632	64 - 7	111.32377
59 - 8	121.80792	64 - 8	111.12944
59 - 9	121.64952	64 - 9	110.93511
59 - 10	121.49112	64 - 10	110.74078
59 - 11	121.33272	64 - 11	110.54645

Age			Age	
65 – 0	~~110.35212~~		70 – 0	~~97.68732~~
65 – 1	~~110.15156~~		70 – 1	~~97.46237~~
65 – 2	~~109.95100~~		70 – 2	~~97.23742~~
65 – 3	~~109.75044~~		70 – 3	~~97.01247~~
65 – 4	~~109.54988~~		70 – 4	~~96.78752~~
65 – 5	~~109.34932~~		70 – 5	~~96.56257~~
65 – 6	~~109.14876~~		70 – 6	~~96.33762~~
65 – 7	~~108.94820~~		70 – 7	~~96.11267~~
65 – 8	~~108.74764~~		70 – 8	~~95.88772~~
65 – 9	~~108.54708~~		70 – 9	~~95.66277~~
65 –10	~~108.34652~~		70 –10	~~95.43782~~
65 –11	~~108.14596~~		70 –11	~~95.21287~~
66 – 0	~~107.94540~~		71 – 0	~~94.98792~~
66 – 1	~~107.73912~~		71 – 1	~~94.75899~~
66 – 2	~~107.53284~~		71 – 2	~~94.53006~~
66 – 3	~~107.32656~~		71 – 3	~~94.30113~~
66 – 4	~~107.12028~~		71 – 4	~~94.07220~~
66 – 5	~~106.91400~~		71 – 5	~~93.84327~~
66 – 6	~~106.70772~~		71 – 6	~~93.61434~~
66 – 7	~~106.50144~~		71 – 7	~~93.38541~~
66 – 8	~~106.29516~~		71 – 8	~~93.15648~~
66 – 9	~~106.08888~~		71 – 9	~~92.92755~~
66 –10	~~105.88260~~		71 –10	~~92.69862~~
66 –11	~~105.67632~~		71 –11	~~92.46969~~
67 – 0	~~105.47004~~		72 – 0	~~92.24076~~
67 – 1	~~105.25854~~		72 – 1	~~92.00832~~
67 – 2	~~105.04704~~		72 – 2	~~91.77588~~
67 – 3	~~104.83554~~		72 – 3	~~91.54344~~
67 – 4	~~104.62404~~		72 – 4	~~91.31100~~
67 – 5	~~104.41254~~		72 – 5	~~91.07856~~
67 – 6	~~104.20104~~		72 – 6	~~90.84612~~
67 – 7	~~103.98954~~		72 – 7	~~90.61368~~
67 – 8	~~103.77804~~		72 – 8	~~90.38124~~
67 – 9	~~103.56654~~		72 – 9	~~90.14880~~
67 –10	~~103.35504~~		72 –10	~~89.91636~~
67 –11	~~103.14354~~		72 –11	~~89.68392~~
68 – 0	~~102.93204~~		73 – 0	~~89.45148~~
68 – 1	~~102.71574~~		73 – 1	~~89.21624~~
68 – 2	~~102.49944~~		73 – 2	~~88.98100~~
68 – 3	~~102.28314~~		73 – 3	~~88.74576~~
68 – 4	~~102.06684~~		73 – 4	~~88.51052~~
68 – 5	~~101.85054~~		73 – 5	~~88.27528~~
68 – 6	~~101.63424~~		73 – 6	~~88.04004~~
68 – 7	~~101.41794~~		73 – 7	~~87.80480~~
68 – 8	~~101.20164~~		73 – 8	~~87.56956~~
68 – 9	~~100.98534~~		73 – 9	~~87.33432~~
68 –10	~~100.76904~~		73 –10	~~87.09908~~
68 –11	~~100.55274~~		73 –11	~~86.86384~~
69 – 0	~~100.33644~~		74 – 0	~~86.62860~~
69 – 1	~~100.11568~~		74 – 1	~~86.39151~~
69 – 2	~~99.89492~~		74 – 2	~~86.15442~~
69 – 3	~~99.67416~~		74 – 3	~~85.91733~~
69 – 4	~~99.45340~~		74 – 4	~~85.68024~~
69 – 5	~~99.23264~~		74 – 5	~~85.44315~~
69 – 6	~~99.01188~~		74 – 6	~~85.20606~~
69 – 7	~~98.79112~~		74 – 7	~~84.96897~~
69 – 8	~~98.57036~~		74 – 8	~~84.73188~~
69 – 9	~~98.34960~~		74 – 9	~~84.49479~~
69 –10	~~98.12884~~		74 –10	~~84.25770~~
69 –11	~~97.90808~~		74 –11	~~84.02061~~

Age			Age	
75 – 0	83.78352		80 – 0	69.72372
75 – 1	83.54575		80 – 1	69.49882
75 – 2	83.30798		80 – 2	69.27392
75 – 3	83.07021		80 – 3	69.04902
75 – 4	82.83244		80 – 4	68.82412
75 – 5	82.59467		80 – 5	68.59922
75 – 6	82.35690		80 – 6	68.37432
75 – 7	82.11913		80 – 7	68.14942
75 – 8	81.88136		80 – 8	67.92452
75 – 9	81.64359		80 – 9	67.69962
75 –10	81.40582		80 –10	67.47472
75 –11	81.16805		80 –11	67.24982
76 – 0	80.93028		81 – 0	67.02492
76 – 1	80.69317		81 – 1	66.80443
76 – 2	80.45606		81 – 2	66.58394
76 – 3	80.21895		81 – 3	66.36345
76 – 4	79.98184		81 – 4	66.14296
76 – 5	79.74473		81 – 5	65.92247
76 – 6	79.50762		81 – 6	65.70198
76 – 7	79.27051		81 – 7	65.48149
76 – 8	79.03340		81 – 8	65.26100
76 – 9	78.79629		81 – 9	65.04051
76 –10	78.55918		81 –10	64.82002
76 –11	78.32207		81 –11	64.59953
77 – 0	78.08496		82 – 0	64.37904
77 – 1	77.84967		82 – 1	64.16305
77 – 2	77.61438		82 – 2	63.94706
77 – 3	77.37909		82 – 3	63.73107
77 – 4	77.14380		82 – 4	63.51508
77 – 5	76.90851		82 – 5	63.29909
77 – 6	76.67322		82 – 6	63.08310
77 – 7	76.43793		82 – 7	62.86711
77 – 8	76.20264		82 – 8	62.65112
77 – 9	75.96735		82 – 9	62.43513
77 –10	75.73206		82 –10	62.21914
77 –11	75.49677		82 –11	62.00315
78 – 0	75.26148		83 – 0	61.78716
78 – 1	75.02897		83 – 1	61.57551
78 – 2	74.79646		83 – 2	61.36386
78 – 3	74.56395		83 – 3	61.15221
78 – 4	74.33144		83 – 4	60.94056
78 – 5	74.09893		83 – 5	60.72891
78 – 6	73.86642		83 – 6	60.51726
78 – 7	73.63391		83 – 7	60.30561
78 – 8	73.40140		83 – 8	60.09396
78 – 9	73.16889		83 – 9	59.88231
78 –10	72.93638		83 –10	59.67066
78 –11	72.70387		83 –11	59.45901
79 – 0	72.47136		84 – 0	59.24736
79 – 1	72.24239		84 – 1	59.03960
79 – 2	72.01342		84 – 2	58.83184
79 – 3	71.78445		84 – 3	58.62408
79 – 4	71.55548		84 – 4	58.41632
79 – 5	71.32651		84 – 5	58.20856
79 – 6	71.09754		84 – 6	58.00080
79 – 7	70.86857		84 – 7	57.79304
79 – 8	70.63960		84 – 8	57.58528
79 – 9	70.41063		84 – 9	57.37752
79 –10	70.18166		84 –10	57.16976
79 –11	69.95269		84 –11	56.96200

Age			Age		
85	0	~~56.75424~~	90	0	~~44.85708~~
~~85~~	~~1~~	~~56.54960~~	~~90~~	~~1~~	~~44.67025~~
~~85~~	~~2~~	~~56.34496~~	~~90~~	~~2~~	~~44.48342~~
~~85~~	~~3~~	~~56.14032~~	~~90~~	~~3~~	~~44.29659~~
~~85~~	~~4~~	~~55.93568~~	~~90~~	~~4~~	~~44.10976~~
~~85~~	~~5~~	~~55.73104~~	~~90~~	~~5~~	~~43.92293~~
~~85~~	~~6~~	~~55.52640~~	~~90~~	~~6~~	~~43.73610~~
~~85~~	~~7~~	~~55.32176~~	~~90~~	~~7~~	~~43.54927~~
~~85~~	~~8~~	~~55.11712~~	~~90~~	~~8~~	~~43.36244~~
~~85~~	~~9~~	~~54.91248~~	~~90~~	~~9~~	~~43.17561~~
~~85~~	~~10~~	~~54.70784~~	~~90~~	~~10~~	~~42.98878~~
~~85~~	~~11~~	~~54.50320~~	~~90~~	~~11~~	~~42.80195~~
~~86~~	~~0~~	~~54.29856~~	~~91~~	~~0~~	~~42.61512~~
~~86~~	~~1~~	~~54.09717~~	~~91~~	~~1~~	~~42.43238~~
~~86~~	~~2~~	~~53.89578~~	~~91~~	~~2~~	~~42.24964~~
~~86~~	~~3~~	~~53.69439~~	~~91~~	~~3~~	~~42.06690~~
~~86~~	~~4~~	~~53.49300~~	~~91~~	~~4~~	~~41.88416~~
~~86~~	~~5~~	~~53.29161~~	~~91~~	~~5~~	~~41.70142~~
~~86~~	~~6~~	~~53.09022~~	~~91~~	~~6~~	~~41.51868~~
~~86~~	~~7~~	~~52.88883~~	~~91~~	~~7~~	~~41.33594~~
~~86~~	~~8~~	~~52.68744~~	~~91~~	~~8~~	~~41.15320~~
~~86~~	~~9~~	~~52.48605~~	~~91~~	~~9~~	~~40.97046~~
~~86~~	~~10~~	~~52.28466~~	~~91~~	~~10~~	~~40.78772~~
~~86~~	~~11~~	~~52.08327~~	~~91~~	~~11~~	~~40.60498~~
~~87~~	~~0~~	~~51.88188~~	~~92~~	~~0~~	~~40.42224~~
~~87~~	~~1~~	~~51.68342~~	~~92~~	~~1~~	~~40.24314~~
~~87~~	~~2~~	~~51.48496~~	~~92~~	~~2~~	~~40.06404~~
~~87~~	~~3~~	~~51.28650~~	~~92~~	~~3~~	~~39.88494~~
~~87~~	~~4~~	~~51.08804~~	~~92~~	~~4~~	~~39.70584~~
~~87~~	~~5~~	~~50.88958~~	~~92~~	~~5~~	~~39.52674~~
~~87~~	~~6~~	~~50.69112~~	~~92~~	~~6~~	~~39.34764~~
~~87~~	~~7~~	~~50.49266~~	~~92~~	~~7~~	~~39.16854~~
~~87~~	~~8~~	~~50.29420~~	~~92~~	~~8~~	~~38.98944~~
~~87~~	~~9~~	~~50.09574~~	~~92~~	~~9~~	~~38.81034~~
~~87~~	~~10~~	~~49.89728~~	~~92~~	~~10~~	~~38.63124~~
~~87~~	~~11~~	~~49.69882~~	~~92~~	~~11~~	~~38.45214~~
~~88~~	~~0~~	~~49.50036~~	~~93~~	~~0~~	~~38.27304~~
~~88~~	~~1~~	~~49.30481~~	~~93~~	~~1~~	~~38.09687~~
~~88~~	~~2~~	~~49.10926~~	~~93~~	~~2~~	~~37.92070~~
~~88~~	~~3~~	~~48.91371~~	~~93~~	~~3~~	~~37.74453~~
~~88~~	~~4~~	~~48.71816~~	~~93~~	~~4~~	~~37.56836~~
~~88~~	~~5~~	~~48.52261~~	~~93~~	~~5~~	~~37.39219~~
~~88~~	~~6~~	~~48.32706~~	~~93~~	~~6~~	~~37.21602~~
~~88~~	~~7~~	~~48.13151~~	~~93~~	~~7~~	~~37.03985~~
~~88~~	~~8~~	~~47.93596~~	~~93~~	~~8~~	~~36.86368~~
~~88~~	~~9~~	~~47.74041~~	~~93~~	~~9~~	~~36.68751~~
~~88~~	~~10~~	~~47.54486~~	~~93~~	~~10~~	~~36.51134~~
~~88~~	~~11~~	~~47.34931~~	~~93~~	~~11~~	~~36.33517~~
~~89~~	~~0~~	~~47.15376~~	~~94~~	~~0~~	~~36.15900~~
~~89~~	~~1~~	~~46.96237~~	~~94~~	~~1~~	~~35.98895~~
~~89~~	~~2~~	~~46.77098~~	~~94~~	~~2~~	~~35.81890~~
~~89~~	~~3~~	~~46.57959~~	~~94~~	~~3~~	~~35.64884~~
~~89~~	~~4~~	~~46.38820~~	~~94~~	~~4~~	~~35.47879~~
~~89~~	~~5~~	~~46.19681~~	~~94~~	~~5~~	~~35.30874~~
~~89~~	~~6~~	~~46.00542~~	~~94~~	~~6~~	~~35.13869~~
~~89~~	~~7~~	~~45.81403~~	~~94~~	~~7~~	~~34.96864~~
~~89~~	~~8~~	~~45.62264~~	~~94~~	~~8~~	~~34.79858~~
~~89~~	~~9~~	~~45.43125~~	~~94~~	~~9~~	~~34.62853~~
~~89~~	~~10~~	~~45.23986~~	~~94~~	~~10~~	~~34.45848~~
~~89~~	~~11~~	~~45.04847~~	~~94~~	~~11~~	~~34.28843~~

Age		
95 - 0	34.11838	
98 - 0	28.42891	
95 - 1	33.92699	
98 - 1	28.24981	
95 - 2	33.73560	
98 - 2	28.07071	
95 - 3	33.54421	
98 - 3	27.89161	
95 - 4	33.35282	
98 - 4	27.71251	
95 - 5	33.16143	
98 - 5	27.53341	
95 - 6	32.97004	
98 - 6	27.35431	
95 - 7	32.77865	
98 - 7	27.17521	
95 - 8	32.58726	
98 - 8	26.99611	
95 - 9	32.39587	
98 - 9	26.81701	
95 -10	32.20448	
98 -10	26.63791	
95 -11	32.01309	
98 -11	26.45881	
96 - 0	32.17346	
99 - 0	26.60636	
96 - 1	31.98663	
99 - 1	26.43019	
96 - 2	31.79980	
99 - 2	26.25402	
96 - 3	31.61297	
99 - 3	26.07785	
96 - 4	31.42614	
99 - 4	25.90168	
96 - 5	31.23931	
99 - 5	25.72551	

Age		
96 - 6	31.05248	
99 - 6	25.54934	
96 - 7	30.86565	
99 - 7	25.37317	
96 - 8	30.67882	
99 - 8	25.19700	
96 - 9	30.49199	
99 - 9	25.02083	
96 -10	30.30516	
99 -10	24.84466	
96 -11	30.11833	
99 -11	24.66849	
97 - 0	30.28168	
100 - 0	24.81405	
97 - 1	30.09894	
100 - 1	24.64400	
97 - 2	29.91620	
100 - 2	24.47395	
97 - 3	29.73346	
100 - 3	24.30389	
97 - 4	29.55072	
100 - 4	24.13384	
97 - 5	29.36798	
100 - 5	23.96379	
97 - 6	29.18524	
100 - 6	23.79374	
97 - 7	29.00250	
100 - 7	23.62369	
97 - 8	28.81976	
100 - 8	23.45363	
97 - 9	28.63702	
100 - 9	23.28358	
97 -10	28.45428	
100 -10	23.11353	
97 -11	28.27154	
100 -11	22.94348	

Exhibit L. **Multiples of Pay Factors for Determining the Actuarial Accrued Liability of a Transferring Member's Benefit**

Table 1. **0-6 Completed Years of Service**

AGE OF MEMBER AT DATE OF TRANSFER IN COMPLETED YEARS	0	1	2	3	4	5	6
15	0.00000	--	--	--	--	--	--
16	0.00000	0.09325	--	--	--	--	--
17	0.00000	0.09639	0.18398	--	--	--	--
18	0.00000	0.09548	0.19019	0.27477	--	--	--
19	0.00000	0.09870	0.18839	0.28405	0.36988	--	--
20	0.00000	0.09770	0.19476	0.28136	0.38237	0.46987	--
21	0.00000	0.10100	0.19279	0.29087	0.37876	0.48574	0.57519
22	0.00000	0.09991	0.19930	0.28793	0.39156	0.48116	0.59462
23	0.00000	0.10329	0.19714	0.29766	0.38761	0.49743	0.58903
24	0.00000	0.10209	0.20381	0.29444	0.40072	0.49242	0.60895
25	0.00000	0.10555	0.20145	0.30441	0.39639	0.50908	0.60282
26	0.00000	0.10424	0.20827	0.30089	0.40981	0.50359	0.62322
27	0.00000	0.10777	0.20570	0.31108	0.40509	0.52065	0.61652
28	0.00000	0.10634	0.21267	0.30724	0.41881	0.51465	0.63741
29	0.00000	0.10995	0.20986	0.31766	0.41365	0.53211	0.63009
30	0.00000	0.10839	0.21698	0.31347	0.42769	0.52556	0.65147
31	0.00000	0.11208	0.21392	0.32412	0.42206	0.54341	0.64347
32	0.00000	0.11038	0.22119	0.31955	0.43641	0.53627	0.66535
33	0.00000	0.11414	0.21785	0.33043	0.43027	0.55452	0.65663
34	0.00000	0.11230	0.22527	0.32545	0.44493	0.54674	0.67899
35	0.00000	0.11612	0.22164	0.33655	0.43825	0.56539	0.66950
36	0.00000	0.11412	0.22921	0.33114	0.45321	0.55693	0.69236
37	0.00000	0.11793	0.22527	0.34247	0.44595	0.57597	0.68203
38	0.00000	0.11576	0.23280	0.33659	0.46122	0.56677	0.70538
39	0.00000	0.11954	0.22852	0.34786	0.45333	0.58620	0.69414
40	0.00000	0.11718	0.23600	0.34148	0.46854	0.57620	0.71798
41	0.00000	0.12093	0.23136	0.35269	0.45998	0.59558	0.70578
42	0.00000	0.11838	0.23878	0.34578	0.47511	0.58474	0.72958
43	0.00000	0.12218	0.23377	0.35689	0.46585	0.60403	0.71637
44	0.00000	0.11944	0.24131	0.34945	0.48088	0.59233	0.74009
45	0.00000	0.12331	0.23591	0.36077	0.47091	0.61151	0.72585
46	0.00000	0.12732	0.24359	0.35276	0.48623	0.59893	0.74947
47	0.00000	0.13149	0.25156	0.36430	0.47552	0.61853	0.73417
48	0.00000	0.13582	0.25985	0.37630	0.49119	0.60503	0.75836
49	0.00000	0.14032	0.26847	0.38879	0.50748	0.62510	0.74198
50	0.00000	0.14490	0.27744	0.40178	0.52444	0.64600	0.76678
51	0.00000	0.14944	0.28657	0.41532	0.54211	0.66776	0.79261
52	0.00000	0.15389	0.29563	0.42910	0.56053	0.69045	0.81954

53	0.00000	0.15826	0.30451	0.44279	0.57930	0.71411	0.84763
54	0.00000	0.15478	0.31326	0.45624	0.59796	0.73825	0.87694
55	0.00000	0.15113	0.30647	0.46950	0.61631	0.76226	0.90687
56	0.00000	0.14730	0.29934	0.45946	0.63445	0.78594	0.93670
57	0.00000	0.15146	0.29188	0.44895	0.62112	0.80935	0.96614
58	0.00000	0.15550	0.30023	0.43793	0.60714	0.79267	0.99532
59	0.00000	0.15932	0.30837	0.45065	0.59250	0.77516	0.97522
60	0.00000	0.16269	0.31609	0.46309	0.61001	0.75683	0.95415
61	0.00000	0.16492	0.32295	0.47495	0.62719	0.77962	0.93209
62	0.00000	0.16567	0.32760	0.48556	0.64365	0.80208	0.96076
63	0.00000	0.16521	0.32932	0.49290	0.65850	0.82371	0.98913
64	0.00000	0.17167	0.32867	0.49590	0.66899	0.84341	1.01665
65	0.00000	0.16784	0.32134	0.48484	0.65408	0.82461	0.99399
66	0.00000	0.16388	0.31376	0.47340	0.63864	0.80514	0.97052
67	0.00000	0.15979	0.30593	0.46159	0.62270	0.78506	0.94631
68	0.00000	0.15559	0.29789	0.44945	0.60633	0.76441	0.92142
69	0.00000	0.15129	0.28965	0.43702	0.58956	0.74328	0.89594
70	0.00000	0.14690	0.28124	0.42433	0.57245	0.72170	0.86994
71	0.00000	0.14243	0.27268	0.41142	0.55503	0.69974	0.84346
72	0.00000	0.13788	0.26398	0.39830	0.53733	0.67742	0.81656
73	0.00000	0.13327	0.25516	0.38498	0.51936	0.65477	0.78926
74	0.00000	0.12861	0.24622	0.37150	0.50117	0.63184	0.76162
75	0.00000	0.12389	0.23720	0.35788	0.48281	0.60868	0.73371
76	0.00000	0.11915	0.22813	0.34419	0.46434	0.58540	0.70564
77	0.00000	0.11441	0.21904	0.33049	0.44585	0.56210	0.67755
78	0.00000	0.10969	0.21001	0.31685	0.42745	0.53890	0.64959
79	0.00000	0.10501	0.20105	0.30334	0.40923	0.51592	0.62189
80	0.00000	0.10039	0.19221	0.29001	0.39124	0.49324	0.59455

Exhibit L. **Multiples of Pay Factors for Determining the Actuarial Accrued Liability of a Transferring Member's Benefit**

Table 2. **7-13 Completed Years of Service**

AGE OF MEMBER AT DATE OF TRANSFER IN COMPLETED YEARS	7	8	9	10	11	12	13
15	--	--	--	--	--	--	--
16	--	--	--	--	--	--	--
17	--	--	--	--	--	--	--
18	--	--	--	--	--	--	--
19	--	--	--	--	--	--	--
20	--	--	--	--	--	--	--
21	--	--	--	--	--	--	--
22	0.68553	--	--	--	--	--	--
23	0.70870	0.80227	--	--	--	--	--
24	0.70204	0.82940	0.92599	--	--	--	--
25	0.72579	0.82162	0.95732	1.05610	--	--	--
26	0.71850	0.84943	0.94835	1.09186	1.19532	--	--
27	0.74284	0.84091	0.98047	1.08165	1.23581	1.34494	--
28	0.73486	0.86941	0.97065	1.11831	1.22428	1.39052	1.50280
29	0.75978	0.86009	1.00357	1.10713	1.26580	1.37758	1.55377
30	0.75107	0.88928	0.99284	1.14471	1.25318	1.42433	1.53934
31	0.77658	0.87910	1.02656	1.13250	1.29575	1.41017	1.59163
32	0.76706	0.90899	1.01484	1.17100	1.28196	1.45811	1.57585
33	0.79317	0.89788	1.04937	1.15766	1.32558	1.44264	1.62947
34	0.78280	0.92847	1.03659	1.19709	1.31053	1.49178	1.61224
35	0.80949	0.91636	1.07194	1.18255	1.35522	1.47490	1.66721
36	0.79820	0.94765	1.05801	1.22293	1.33882	1.52526	1.64842
37	0.82550	0.93448	1.09419	1.20710	1.38460	1.50687	1.70479
38	0.81321	0.96648	1.07903	1.24843	1.36674	1.55847	1.68431
39	0.84110	0.95214	1.11603	1.23119	1.41360	1.53843	1.74206
40	0.82775	0.98485	1.09954	1.27349	1.39416	1.59127	1.71977
41	0.85624	0.96928	1.13738	1.25476	1.44215	1.56950	1.77896
42	0.84175	1.00272	1.11949	1.29805	1.42105	1.62365	1.75476
43	0.87022	0.98586	1.15823	1.27775	1.47023	1.60006	1.81548
44	0.85456	1.01931	1.13888	1.32211	1.44740	1.65561	1.78929
45	0.88297	1.00110	1.17768	1.30019	1.49785	1.63012	1.85166
46	0.86611	1.03454	1.15682	1.34470	1.47324	1.68720	1.82344
47	0.89446	1.01498	1.19568	1.32112	1.52394	1.65978	1.88762
48	0.87639	1.04841	1.17330	1.36578	1.49753	1.71725	1.85732
49	0.90546	1.02745	1.21222	1.34052	1.54850	1.68786	1.92206
50	0.88611	1.06180	1.18828	1.38532	1.52023	1.74573	1.88964
51	0.91597	1.03938	1.22832	1.35832	1.57145	1.71431	1.95493
52	0.94709	1.07469	1.20271	1.40446	1.54123	1.77255	1.92026

53	0.97955	1.11152	1.24393	1.37558	1.59405	1.73896	1.98607
54	1.01342	1.14996	1.28695	1.42315	1.56174	1.79910	1.94902
55	1.04880	1.19011	1.33188	1.47284	1.61627	1.76320	2.01707
56	1.08497	1.23209	1.37886	1.52479	1.67327	1.82539	1.97751
57	1.12107	1.27505	1.42802	1.57915	1.73293	1.89047	2.04801
58	1.15677	1.31799	1.47840	1.63610	1.79542	1.95864	2.12186
59	1.19222	1.36055	1.52885	1.69455	1.86097	2.03015	2.19933
60	1.16871	1.40292	1.57897	1.75322	1.92839	2.10529	2.28073
61	1.14408	1.37601	1.62904	1.81169	1.99624	2.18274	2.36643
62	1.11833	1.34784	1.59878	1.77804	1.95916	2.14220	2.32247
63	1.15354	1.31844	1.56717	1.74289	1.92043	2.09985	2.27656
64	1.18859	1.36108	1.53424	1.70626	1.88008	2.05572	2.22872
65	1.16209	1.33074	1.50004	1.66823	1.83816	2.00989	2.17904
66	1.13465	1.29932	1.46463	1.62884	1.79477	1.96244	2.12759
67	1.10635	1.26690	1.42809	1.58821	1.74999	1.91348	2.07451
68	1.07726	1.23359	1.39053	1.54644	1.70397	1.86317	2.01996
69	1.04747	1.19948	1.35208	1.50368	1.65686	1.81165	1.96411
70	1.01706	1.16466	1.31284	1.46003	1.60876	1.75906	1.90709
71	0.98611	1.12921	1.27288	1.41560	1.55980	1.70552	1.84905
72	0.95466	1.09320	1.23228	1.37045	1.51005	1.65113	1.79008
73	0.92274	1.05665	1.19108	1.32463	1.45957	1.59593	1.73023
74	0.89042	1.01964	1.14937	1.27823	1.40844	1.54003	1.66963
75	0.85779	0.98228	1.10725	1.23139	1.35683	1.48359	1.52132
76	0.82498	0.94470	1.06489	1.18429	1.30493	1.42684	1.46313
77	0.79214	0.90710	1.02250	1.13715	1.25298	1.37005	1.40489
78	0.75945	0.86966	0.98031	1.09022	1.20128	1.31351	1.34691
79	0.72706	0.83258	0.93850	1.04373	1.15005	1.25749	1.28947
80	0.69510	0.79598	0.89724	0.99784	1.09949	1.20221	1.23279

Exhibit L.   **Multiples of Pay Factors for Determining the Actuarial Accrued Liability of a Transferring Member's Benefit**
Table 3.   **14-20 Completed Years of Service**

AGE OF MEMBER AT DATE OF TRANSFER IN COMPLETED YEARS	14	15	16	17	18	19	20
15	--	--	--	--	--	--	--
16	--	--	--	--	--	--	--
17	--	--	--	--	--	--	--
18	--	--	--	--	--	--	--
19	--	--	--	--	--	--	--
20	--	--	--	--	--	--	--
21	--	--	--	--	--	--	--
22	--	--	--	--	--	--	--
23	--	--	--	--	--	--	--
24	--	--	--	--	--	--	--
25	--	--	--	--	--	--	--
26	--	--	--	--	--	--	--
27	--	--	--	--	--	--	--
28	--	--	--	--	--	--	--
29	1.66930	--	--	--	--	--	--
30	1.72595	1.84482	--	--	--	--	--
31	1.70997	1.90748	2.02979	--	--	--	--
32	1.76810	1.88987	2.09879	2.22464	--	--	--
33	1.75062	1.95418	2.07948	2.30034	2.42984	--	--
34	1.81025	1.93493	2.15031	2.27925	2.51260	2.64586	--
35	1.79118	2.00091	2.12921	2.35698	2.48967	2.73609	2.87322
36	1.85234	1.97991	2.20192	2.33395	2.57468	2.71123	2.97133
37	1.83155	2.04762	2.17891	2.41377	2.54965	2.80394	2.94448
38	1.89426	2.02472	2.25351	2.38864	2.63695	2.77680	3.04529
39	1.87159	2.09414	2.22842	2.47055	2.60963	2.87202	3.01596
40	1.93588	2.06920	2.30496	2.44318	2.69927	2.84243	3.11955
41	1.91123	2.14042	2.27767	2.52727	2.66955	2.94027	3.08763
42	1.97718	2.11335	2.35626	2.49755	2.76166	2.90813	3.19416
43	1.95047	2.18647	2.32667	2.58397	2.72944	3.00876	3.15955
44	2.01818	2.15718	2.40745	2.55181	2.82420	2.97399	3.26925
45	1.98934	2.23237	2.37551	2.64076	2.78942	3.07765	3.23189
46	2.05899	2.20080	2.45869	2.60612	2.88709	3.04022	3.34506
47	2.02797	2.27827	2.42435	2.69786	2.84974	3.14723	3.30497
48	2.09979	2.24440	2.51021	2.66073	2.95065	3.10715	3.42201
49	2.06655	2.32441	2.47345	2.75557	2.91070	3.21790	3.37918
50	2.13910	2.28817	2.56224	2.71588	3.01519	3.17510	3.50048
51	2.10356	2.36912	2.52295	2.81411	2.97253	3.28993	3.45482
52	2.17684	2.33038	2.61291	2.77170	3.08087	3.24427	3.58074

53	2.13884	2.41225	2.57093	2.87136	3.03532	3.36348	3.53205
54	2.21281	2.37087	2.66205	2.82608	3.14540	3.31475	3.66294
55	2.17223	2.45365	2.61722	2.92719	3.09679	3.43607	3.61103
56	2.24885	2.40948	2.70954	2.87888	3.20869	3.38413	3.74449
57	2.20555	2.49539	2.66175	2.98152	3.15690	3.50771	3.68925
58	2.28508	2.44831	2.75773	2.93009	3.27075	3.45246	3.82547
59	2.36851	2.53769	2.70687	3.03707	3.21572	3.57851	3.76685
60	2.45617	2.63161	2.80705	2.98249	3.33473	3.52000	3.70526
61	2.54846	2.73050	2.91253	3.09456	3.27660	3.45863	3.64066
62	2.50112	2.67978	2.85843	3.03708	3.21573	3.39438	3.57303
63	2.45168	2.62680	2.80191	2.97703	3.15215	3.32727	3.50239
64	2.40016	2.57160	2.74304	2.91448	3.08592	3.25736	3.42880
65	2.34665	2.51427	2.68189	2.84951	3.01713	3.18474	3.35236
66	2.29125	2.45491	2.61857	2.78224	2.94590	3.10956	3.27322
67	2.23409	2.39367	2.55325	2.71282	2.87240	3.03198	3.19156
68	2.17534	2.33073	2.48611	2.64149	2.79687	2.95225	3.10763
69	2.11519	2.26628	2.41736	2.56845	2.71953	2.87062	3.02170
70	2.05379	2.20049	2.34719	2.49389	2.64059	2.78729	2.93399
71	1.99129	2.13352	2.27576	2.41799	2.56023	2.70246	2.84469
72	1.92777	2.06547	2.20317	2.34087	2.47857	2.61627	2.75396
73	1.86333	1.99642	2.12951	2.26261	2.39570	2.52880	2.66189
74	1.79806	1.92649	2.05493	2.18336	2.31179	2.44023	2.56866
75	1.73217	1.85590	1.97962	2.10335	2.22708	2.35080	2.34050
76	1.66591	1.78490	1.90390	2.02289	2.14188	2.26088	2.25097
77	1.59960	1.71385	1.82811	1.94237	2.05663	2.17088	2.16137
78	1.53359	1.64313	1.75267	1.86221	1.97175	2.08130	2.07217
79	1.46819	1.57306	1.67793	1.78280	1.88767	1.99254	1.98380
80	1.40364	1.50390	1.60416	1.70443	1.80469	1.90495	1.89659

Exhibit L. **Multiples of Pay Factors for Determining the Actuarial Accrued Liability of a Transferring Member's Benefit**

Table 4. **21-27 Completed Years of Service**

AGE OF MEMBER AT DATE OF TRANSFER IN COMPLETED YEARS	21	22	23	24	25	26	27
15	--	--	--	--	--	--	--
16	--	--	--	--	--	--	--
17	--	--	--	--	--	--	--
18	--	--	--	--	--	--	--
19	--	--	--	--	--	--	--
20	--	--	--	--	--	--	--
21	--	--	--	--	--	--	--
22	--	--	--	--	--	--	--
23	--	--	--	--	--	--	--
24	--	--	--	--	--	--	--
25	--	--	--	--	--	--	--
26	--	--	--	--	--	--	--
27	--	--	--	--	--	--	--
28	--	--	--	--	--	--	--
29	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
31	--	--	--	--	--	--	--
32	--	--	--	--	--	--	--
33	--	--	--	--	--	--	--
34	--	--	--	--	--	--	--
35	--	--	--	--	--	--	--
36	3.11990	--	--	--	--	--	--
37	3.22659	3.38023	--	--	--	--	--
38	3.19756	3.49597	3.65488	--	--	--	--
39	3.30720	3.46468	3.78020	3.94455	--	--	--
40	3.27553	3.58369	3.74659	4.08005	4.25005	--	--
41	3.38828	3.54962	3.87554	4.04405	4.39633	4.57219	--
42	3.35387	3.67210	3.83901	4.18358	4.35789	4.72994	4.91187
43	3.46993	3.63516	3.97185	4.14454	4.50869	4.68904	5.08183
44	3.43271	3.76136	3.93234	4.28843	4.46711	4.85183	5.03844
45	3.55236	3.72152	4.06940	4.24633	4.62282	4.80773	5.21406
46	3.51231	3.85183	4.02691	4.39502	4.57814	4.97608	5.16746
47	3.63595	3.80909	4.16866	4.34991	4.73930	4.92887	5.34936
48	3.59311	3.94398	4.12325	4.50395	4.69161	5.10341	5.29970
49	3.72118	3.89838	4.27023	4.45589	4.85884	5.05320	5.48861
50	3.67551	4.03833	4.22189	4.61584	4.80817	5.23460	5.43593
51	3.80844	3.98979	4.37458	4.56477	4.98206	5.18135	5.63252
52	3.75978	4.13521	4.32317	4.73115	4.92828	5.37019	5.57674

53	3.89793	4.08354	4.48202	4.67690	5.10937	5.31374	5.51812
54	3.84609	4.23487	4.42736	4.85021	5.05230	5.25439	5.45648
55	3.98990	4.17989	4.59291	4.79260	4.99229	5.19198	5.39167
56	3.93471	4.33767	4.53484	4.73201	4.92918	5.12634	5.32351
57	4.08163	4.27925	4.47376	4.66827	4.86278	5.05730	5.25181
58	4.02300	4.21779	4.40950	4.60122	4.79294	4.98466	5.17637
59	3.96135	4.15315	4.34193	4.53071	4.71949	4.90826	5.09704
60	3.89658	4.08524	4.27094	4.45663	4.64232	4.82802	5.01371
61	3.82865	4.01402	4.19648	4.37893	4.56139	4.74384	4.92630
62	3.75753	3.93946	4.11852	4.29759	4.47666	4.65572	4.83479
63	3.68324	3.86157	4.03710	4.21262	4.38815	4.56368	4.73920
64	3.60585	3.78043	3.95227	4.12411	4.29595	4.46779	4.63962
65	3.52546	3.69616	3.86416	4.03217	4.20018	4.36818	4.53619
66	3.44223	3.60889	3.77293	3.93698	4.10102	4.26506	4.42910
67	3.35636	3.51886	3.67881	3.83876	3.99870	4.15865	4.31860
68	3.26810	3.42633	3.58207	3.73781	3.89356	4.04930	4.20504
69	3.17773	3.33159	3.48302	3.63446	3.78589	3.93733	4.08876
70	3.08549	3.23488	3.38192	3.52896	3.67600	3.82304	3.97008
71	2.99158	3.13642	3.27899	3.42155	3.56412	3.70668	3.84925
72	2.89617	3.03639	3.17441	3.31242	3.45044	3.58846	3.72648
73	2.79934	2.93488	3.06828	3.20168	3.33509	3.46849	3.60189
74	2.70129	2.83208	2.96081	3.08954	3.21827	3.34700	3.47574
75	2.60230	2.72830	2.85231	2.97632	3.10034	3.22435	3.15967
76	2.50276	2.62393	2.74320	2.86247	2.98174	3.10101	3.03880
77	2.40313	2.51949	2.63401	2.74853	2.86305	2.97757	2.91784
78	2.30396	2.41551	2.52531	2.63511	2.74490	2.85470	2.79743
79	2.20571	2.31250	2.41762	2.52273	2.62785	2.73296	2.67814
80	2.10875	2.21084	2.31134	2.41183	2.51232	2.61282	2.56040

Exhibit L. ~~Multiples of Pay Factors for Determining the Actuarial Accrued Liability of a Transferring Member's Benefit~~

Table 5. ~~28-34 Completed Years of Service~~

AGE OF MEMBER AT DATE OF TRANSFER IN COMPLETED YEARS	28	29	30	31	32	33	34
15	--	--	--	--	--	--	--
16	--	--	--	--	--	--	--
17	--	--	--	--	--	--	--
18	--	--	--	--	--	--	--
19	--	--	--	--	--	--	--
20	--	--	--	--	--	--	--
21	--	--	--	--	--	--	--
22	--	--	--	--	--	--	--
23	--	--	--	--	--	--	--
24	--	--	--	--	--	--	--
25	--	--	--	--	--	--	--
26	--	--	--	--	--	--	--
27	--	--	--	--	--	--	--
28	--	--	--	--	--	--	--
29	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
31	--	--	--	--	--	--	--
32	--	--	--	--	--	--	--
33	--	--	--	--	--	--	--
34	--	--	--	--	--	--	--
35	--	--	--	--	--	--	--
36	--	--	--	--	--	--	--
37	--	--	--	--	--	--	--
38	--	--	--	--	--	--	--
39	--	--	--	--	--	--	--
40	--	--	--	--	--	--	--
41	--	--	--	--	--	--	--
42	--	--	--	--	--	--	--
43	5.27004	--	--	--	--	--	--
44	5.45301	5.64776	--	--	--	--	--
45	5.40717	5.84462	6.04615	--	--	--	--
46	5.59650	5.79638	6.25786	6.46646	--	--	--
47	5.54749	6.00042	6.20733	6.69408	6.91002	--	--
48	5.74394	5.94908	6.42714	6.64138	6.85562	7.06986	--
49	5.69189	6.16113	6.37359	6.58604	6.79849	7.01094	7.22340
50	5.89621	6.10679	6.31737	6.52795	6.73853	6.94911	7.15969
51	5.84114	6.04975	6.25836	6.46697	6.67558	6.88420	7.09281
52	5.78329	5.98983	6.19638	6.40292	6.60947	6.81601	7.02256

53	5.72249	5.92687	6.13124	6.33562	6.53999	6.74436	6.94874
54	5.65858	5.86067	6.06276	6.26485	6.46694	6.66904	6.87113
55	5.59136	5.79106	5.99075	6.19044	6.39013	6.58982	6.78951
56	5.52068	5.71784	5.91501	6.11218	6.30935	6.50651	6.70368
57	5.44632	5.64083	5.83534	6.02985	6.22436	6.41888	6.61339
58	5.36809	5.55981	5.75153	5.94324	6.13496	6.32668	6.51840
59	5.28582	5.47460	5.66338	5.85216	6.04094	6.22972	6.41850
60	5.19940	5.38509	5.57079	5.75648	5.94217	6.12787	6.31356
61	5.10875	5.29121	5.47367	5.65612	5.83858	6.02103	6.20349
62	5.01385	5.19292	5.37199	5.55105	5.73012	5.90919	6.08825
63	4.91473	5.09025	5.26578	5.44131	5.61683	5.79236	5.96788
64	4.81146	4.98330	5.15514	5.32697	5.49881	5.67065	5.84249
65	4.70420	4.87220	5.04021	5.20822	5.37623	5.54423	5.71224
66	4.59314	4.75718	4.92122	5.08526	5.24930	5.41334	5.57738
67	4.47855	4.63850	4.79844	4.95839	5.11834	5.27829	5.43824
68	4.36078	4.51652	4.67227	4.82801	4.98375	5.13949	5.29524
69	4.24020	4.39164	4.54307	4.69451	4.84594	4.99738	5.14881
70	4.11712	4.26416	4.41120	4.55824	4.70528	4.85232	4.99936
71	3.99181	4.13438	4.27694	4.41951	4.56207	4.70464	4.84720
72	3.86449	4.00251	4.14053	4.27855	4.41657	4.55458	4.69260
73	3.73530	3.86870	4.00210	4.13551	4.26891	4.40231	4.53572
74	3.60447	3.73320	3.86193	3.99066	4.11939	4.24812	4.37685
75	3.47238	3.59639	3.72041	3.84442	3.96843	4.09245	3.97884
76	3.33955	3.45882	3.57809	3.69736	3.81663	3.93590	3.82664
77	3.20662	3.32114	3.43566	3.55018	3.66471	3.77923	3.67432
78	3.07429	3.18409	3.29388	3.40368	3.51347	3.62327	3.52269
79	2.94319	3.04830	3.15342	3.25853	3.36364	3.46876	3.37247
80	2.81380	2.91429	3.01479	3.11528	3.21577	3.31627	3.22421

Exhibit L.   Multiples of Pay Factors for Determining the Actuarial Accrued Liability of a Transferring Member's Benefit

Table 6.   35-41 Completed Years of Service

AGE OF MEMBER AT DATE OF TRANSFER IN COMPLETED YEARS	35	36	37	38	39	40	41
15	--	--	--	--	--	--	--
16	--	--	--	--	--	--	--
17	--	--	--	--	--	--	--
18	--	--	--	--	--	--	--
19	--	--	--	--	--	--	--
20	--	--	--	--	--	--	--
21	--	--	--	--	--	--	--
22	--	--	--	--	--	--	--
23	--	--	--	--	--	--	--
24	--	--	--	--	--	--	--
25	--	--	--	--	--	--	--
26	--	--	--	--	--	--	--
27	--	--	--	--	--	--	--
28	--	--	--	--	--	--	--
29	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--
31	--	--	--	--	--	--	--
32	--	--	--	--	--	--	--
33	--	--	--	--	--	--	--
34	--	--	--	--	--	--	--
35	--	--	--	--	--	--	--
36	--	--	--	--	--	--	--
37	--	--	--	--	--	--	--
38	--	--	--	--	--	--	--
39	--	--	--	--	--	--	--
40	--	--	--	--	--	--	--
41	--	--	--	--	--	--	--
42	--	--	--	--	--	--	--
43	--	--	--	--	--	--	--
44	--	--	--	--	--	--	--
45	--	--	--	--	--	--	--
46	--	--	--	--	--	--	--
47	--	--	--	--	--	--	--
48	--	--	--	--	--	--	--
49	--	--	--	--	--	--	--
50	7.37027	--	--	--	--	--	--
51	7.30142	7.51003	--	--	--	--	--
52	7.22911	7.43565	7.64220	--	--	--	--

53	7.15311	7.35749	7.56186	7.76624	--	--	--
54	7.07322	7.27531	7.47740	7.67950	7.88159	--	--
55	6.98921	7.18890	7.38859	7.58828	7.78797	7.98766	--
56	6.90085	7.09801	7.29518	7.49235	7.68951	7.88668	8.08385
57	6.80790	7.00241	7.19692	7.39143	7.58594	7.78046	7.97497
58	6.71011	6.90183	7.09355	7.28527	7.47698	7.66870	7.86042
59	6.60728	6.79606	6.98484	7.17362	7.36240	7.55118	7.73996
60	6.49925	6.68494	6.87064	7.05633	7.24202	7.42772	7.61341
61	6.38594	6.56840	6.75085	6.93331	7.11576	7.29822	7.48068
62	6.26732	6.44638	6.62545	6.80452	6.98358	7.16265	7.34172
63	6.14341	6.31894	6.49446	6.66999	6.84551	7.02104	7.19657
64	6.01433	6.18616	6.35800	6.52984	6.70168	6.87352	7.04535
65	5.88025	6.04825	6.21626	6.38427	6.55228	6.72028	6.88829
66	5.74142	5.90546	6.06950	6.23354	6.39759	6.56163	6.72567
67	5.59819	5.75813	5.91808	6.07803	6.23798	6.39793	6.55787
68	5.45098	5.60672	5.76246	5.91820	6.07395	6.22969	6.38543
69	5.30025	5.45169	5.60312	5.75456	5.90599	6.05743	6.20886
70	5.14640	5.29344	5.44048	5.58752	5.73456	5.88160	6.02864
71	4.98977	5.13233	5.27490	5.41746	5.56002	5.70259	5.84515
72	4.83062	4.96864	5.10665	5.24467	5.38269	5.52071	5.65872
73	4.66912	4.80253	4.93593	5.06933	5.20274	5.33614	5.46954
74	4.50558	4.63431	4.76304	4.89178	5.02051	5.14924	5.27797
75	4.34047	4.46449	4.58850	4.71251	4.83653	4.96054	4.79802
76	4.17444	4.29371	4.41298	4.53225	4.65152	4.77079	4.61448
77	4.00827	4.12280	4.23732	4.35184	4.46636	4.58088	4.43080
78	3.84286	3.95266	4.06246	4.17225	4.28205	4.39184	4.24795
79	3.67898	3.78410	3.88921	3.99433	4.09944	4.20455	4.06680
80	3.51725	3.61775	3.71824	3.81873	3.91922	4.01972	3.88802

Exhibit L. ~~**Multiples of Pay Factors for Determining the Actuarial Accrued Liability of a Transferring Member's Benefit**~~

~~**Table 7.**~~ ~~**42-45 Completed Years of Service**~~

AGE OF MEMBER AT DATE OF TRANSFER IN COMPLETED YEARS	42	43	44	45
15	--	--	--	--
16	--	--	--	--
17	--	--	--	--
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20	--	--	--	--
21	--	--	--	--
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54	--	--	--	--
55	--	--	--	--
56	--	--	--	--
57	8.16948	--	--	--
58	8.05214	8.24385	--	--
59	7.92874	8.11752	8.30629	--
60	7.79910	7.98479	8.17049	8.35618
61	7.66313	7.84559	8.02804	8.21050
62	7.52078	7.69985	7.87891	8.05798
63	7.37209	7.54762	7.72314	7.89867
64	7.21719	7.38903	7.56087	7.73271
65	7.05630	7.22430	7.39231	7.56032
66	6.88971	7.05375	7.21779	7.38183
67	6.71782	6.87777	7.03772	7.19767
68	6.54117	6.69692	6.85266	7.00840
69	6.36030	6.51174	6.66317	6.81461
70	6.17568	6.32271	6.46975	6.61679
71	5.98772	6.13028	6.27285	6.41541
72	5.79674	5.93476	6.07278	6.21079
73	5.60295	5.73635	5.86975	6.00316
74	5.40670	5.53543	5.66416	5.79289
75	5.20857	5.33258	5.45660	5.58061
76	5.00933	5.12860	5.24787	5.36714
77	4.80993	4.92445	5.03897	5.15349
78	4.61144	4.72123	4.83103	4.94082
79	4.41478	4.51990	4.62501	4.73012
80	4.22070	4.32120	4.42169	4.52218

Exhibit M. **Transfer Calculation**

Table 1. **Age 18-25 at Date of Calculation**

(BASIS - 50/50 BLEND 83GAM, M(-l), F(N0 ADJ), 8%)
EFFECTIVE 10/1/92

AGE AT HIRE

AGE AT DATE OF CALCULATION

AGE AT HIRE	18	19	20	21	22	23	24	25
18	0.86363	0.93296	1.00788	1.08881	1.17627	1.27076	1.37287	1.48321
19		0.89305	0.96475	1.04223	1.12594	1.21639	1.31413	1.41975
20			0.92163	0.99564	1.07561	1.16202	1.25539	1.35629
21				0.95265	1.02916	1.11184	1.20118	1.29772
22					0.98271	1.06166	1.14696	1.23914
23						1.01535	1.09694	1.18510
24							1.04692	1.13106
25							1.08121	
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27								
28								
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IF THERE IS NO NUMBER IN THE SPACE FOR A PARTICULAR ATTAINED AGE, A SPECIAL CALCULATION WILL BE REQUIRED.

Exhibit M.   Transfer Calculation

Table 2.   Age 26-33 at Date of Calculation

EFFECTIVE 10/1/92
ARIZONA STATE RETIREMENT SYSTEM
(BASIS - 50/50 BLEND 83GAM, M(-1), F(NO ADJ), 8%)

AGE AT HIRE	26	27	28	29	30	31	32	33
					AGE AT DATE OF CALCULATION			
18	1.60244	1.73129	1.87054	2.02103	2.18369	2.35951	2.54955	2.75500
19	1.53388	1.65721	1.79051	1.93456	2.09026	2.25855	2.44047	2.63713
20	1.46532	1.58314	1.71047	1.84809	1.99683	2.15760	2.33139	2.51925
21	1.40204	1.51477	1.63661	1.76828	1.91060	2.06442	2.23070	2.41046
22	1.33876	1.44640	1.56274	1.68847	1.82436	1.97125	2.13002	2.30166
23	1.28037	1.38332	1.49458	1.61483	1.74479	1.88527	2.03712	2.20128
24	1.22198	1.32024	1.42642	1.54119	1.66523	1.79930	1.94422	2.10089
25	1.16812	1.26205	1.36356	1.47326	1.59183	1.72000	1.85853	2.00830
26	1.11426	1.20386	1.30069	1.40533	1.51844	1.64069	1.77284	1.91570
27		1.15020	1.24272	1.34270	1.45076	1.56757	1.69383	1.83032
28			1.18475	1.28007	1.38309	1.49444	1.61482	1.74494
29				1.22233	1.32071	1.42704	1.54198	1.66624
30					1.25833	1.35964	1.46915	1.58754
31						1.29753	1.40204	1.51502
32							1.33494	1.44251
33								1.37572
34								
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Exhibit M. **Transfer Calculation**

Table 3. **Age 34-41 at Date of Calculation**

(BASIS - 50/50 BLEND 83GAM, M(-1), F(NO ADJ), 8%)

AGE AT HIRE	AGE AT DATE OF CALCULATION							
	34	35	36	37	38	39	40	41
18	2.97711	3.21725	3.47696	3.75776	4.06143	4.38989	4.74522	5.12972
19	2.84973	3.07960	3.32819	3.59698	3.88766	4.20206	4.54219	4.91024
20	2.72236	2.94195	3.17943	3.43621	3.71389	4.01424	4.33917	4.69077
21	2.60479	2.81490	3.04212	3.28781	3.55351	3.84088	4.15178	4.48819
22	2.48722	2.68785	2.90482	3.13942	3.39312	3.66753	3.96439	4.28562
23	2.37875	2.57062	2.77813	3.00250	3.24513	3.50757	3.79149	4.09871
24	2.27027	2.45340	2.65144	2.86557	3.09715	3.34762	3.61858	3.91179
25	2.17021	2.34526	2.53458	2.73928	2.96064	3.20007	3.45910	3.73938
26	2.07015	2.23713	2.41772	2.61298	2.82414	3.05253	3.29961	3.56698
27	1.97788	2.13742	2.30996	2.49652	2.69827	2.91648	3.15255	3.40800
28	1.88562	2.03772	2.20221	2.38006	2.57240	2.78043	3.00549	3.24902
29	1.80057	1.94581	2.10288	2.27271	2.45638	2.65503	2.86993	3.10248
30	1.71553	1.85391	2.00356	2.16537	2.34035	2.52962	2.73438	2.95594
31	1.63716	1.76922	1.91204	2.06646	2.23345	2.41407	2.60948	2.82092
32	1.55880	1.68454	1.82052	1.96755	2.12655	2.29853	2.48458	2.68590
33	1.48663	1.60655	1.73623	1.87645	2.02809	2.19211	2.36955	2.56155
34	1.41446	1.52856	1.65195	1.78536	1.92964	2.08569	2.25451	2.43719
35		1.45676	1.57435	1.70150	1.83900	1.98773	2.14862	2.32272
36			1.49676	1.61765	1.74837	1.88976	2.04273	2.20825
37				1.54049	1.66498	1.79963	1.94530	2.10293
38					1.58160	1.70950	1.84788	1.99761
39						1.62663	1.75830	1.90077
40							1.66872	1.80394
41								1.71497
42								
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Exhibit M.   Transfer Calculation

Table 4.   Age 42-49 at Date of Calculation

EFFECTIVE 10/1/92   ARIZONA STATE RETIREMENT SYSTEM

(BASIS - 50/50 BLEND 83GAM, M(-1), F(NO ADJ), 8%)

AGE AT HIRE	AGE AT DATE OF CALCULATION							
	42	43	44	45	46	47	48	49
18	5.54588	5.99646	6.48447	7.01322	7.58640	8.20804	8.88257	9.61483
19	5.30860	5.73989	6.20702	6.71316	7.26181	7.85685	8.50252	9.20345
20	5.07132	5.48333	5.92958	6.41310	6.93722	7.50566	8.12248	8.79207
21	4.85231	5.24653	5.67351	6.13614	6.63763	7.18153	7.77170	8.41238
22	4.63330	5.00973	5.41744	5.85919	6.33805	6.85739	7.42093	8.03270
23	4.43123	4.79124	5.18116	5.60365	6.06162	6.55832	7.09727	7.68236
24	4.22915	4.57274	4.94489	5.34810	5.78519	6.25924	6.77362	7.33202
25	4.04275	4.37120	4.72695	5.11239	5.53021	5.98337	6.47508	7.00887
26	3.85636	4.16966	4.50900	4.87668	5.27524	5.70749	6.17653	6.68571
27	3.68448	3.98382	4.30804	4.65933	5.04012	5.45312	5.90125	6.38773
28	3.51261	3.79799	4.10708	4.44198	4.80501	5.19874	5.62597	6.08976
29	3.35418	3.62669	3.92184	4.24163	4.58829	4.96426	5.37222	5.81509
30	3.19575	3.45539	3.73660	4.04129	4.37157	4.72978	5.11848	5.54043
31	3.04978	3.29755	3.56592	3.85669	4.17189	4.51374	4.88468	5.28736
32	2.90380	3.13972	3.39524	3.67210	3.97221	4.29769	4.65088	5.03428
33	2.76936	2.99436	3.23805	3.50208	3.78830	4.09872	4.43555	4.80120
34	2.63492	2.84899	3.08085	3.33207	3.60439	3.89974	4.22022	4.56812
35	2.51116	2.71518	2.93614	3.17556	3.43510	3.71657	4.02200	4.35356
36	2.38740	2.58136	2.79144	3.01906	3.26580	3.53340	3.82378	4.13900
37	2.27353	2.45825	2.65831	2.87507	3.11004	3.36488	3.64141	3.94160
38	2.15967	2.33513	2.52517	2.73108	2.95428	3.19636	3.45904	3.74419
39	2.05498	2.22194	2.40276	2.59869	2.81107	3.04142	3.29136	3.56269
40	1.95029	2.10874	2.28035	2.46630	2.66786	2.88647	3.12368	3.38119
41	1.85410	2.00474	2.16789	2.34466	2.53629	2.74411	2.96962	3.21443
42	1.75791	1.90073	2.05542	2.22303	2.40471	2.60175	2.81556	3.04767
43		1.80526	1.95218	2.11136	2.28392	2.47107	2.67414	2.89459
44			1.84894	1.99970	2.16313	2.34038	2.53272	2.74151
45				1.99970	2.16313	2.34038	2.53272	2.74151
46					2.16313	2.34038	2.53272	2.74151
47						2.34038	2.53272	2.74151
48							2.53272	2.74151
49								2.74151
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Exhibit M. **Transfer Calculation**

Table 5. **Age 50-57 at Date of Calculation**

EFFECTIVE 10/1/92   ARIZONA STATE RETIREMENT SYSTEM
(BASIS - 50/50 BLEND 83GAM, M(-1), F(NO ADJ), 8%)

AGE AT HIRE	50	51	52	53	54	55	56	57
18	10.41013	11.27426						
19	9.96473	10.79189						
20	9.51932	10.30951	11.16843					
21	9.10823	9.86429	10.68612					
22	8.69713	9.41907	10.20381	11.05718				
23	8.31782	9.00827	9.75878	10.57493				
24	7.93850	8.59746	9.31375	10.09268	10.94014			
25	7.58861	8.21853	8.90325	9.64785	10.45796			
26	7.23873	7.83961	8.49276	9.20302	9.97578	10.81698		
27	6.91611	7.49020	8.11424	8.79285	9.53117	10.33487		
28	6.59348	7.14080	7.73572	8.38268	9.08655	9.85277	10.68733	
29	6.29610	6.81873	7.38682	8.00460	8.67673	9.40839	10.20531	
30	5.99872	6.49666	7.03792	7.62652	8.26690	8.96400	9.72328	10.55085
31	5.72471	6.19991	6.71645	7.27816	7.88929	8.55455	9.27914	10.06891
32	5.45070	5.90316	6.39497	6.92980	7.51168	8.14509	8.83501	9.58697
33	5.19834	5.62985	6.09889	6.60896	7.16389	7.76799	8.42596	9.14311
34	4.94598	5.35654	5.80281	6.28812	6.81611	7.39088	8.01691	8.69924
35	4.71367	5.10495	5.53026	5.99277	6.49597	7.04373	7.64036	8.29065
36	4.48136	4.85336	5.25771	5.69742	6.17582	6.69659	7.26381	7.88205
37	4.26763	4.62188	5.00695	5.42569	5.88127	6.37721	6.91738	7.50613
38	4.05390	4.39041	4.75619	5.15396	5.58672	6.05782	6.57094	7.13020
39	3.85738	4.17758	4.52563	4.90412	5.31591	5.76416	6.25241	6.78456
40	3.66087	3.96475	4.29507	4.65428	5.04509	5.47051	5.93388	6.43892
41	3.48032	3.76921	4.08324	4.42473	4.79626	5.20071	5.64122	6.12136
42	3.29976	3.57367	3.87141	4.19519	4.54744	4.93090	5.34857	5.80379
43	3.13402	3.39417	3.67695	3.98446	4.31903	4.68323	5.07991	5.51227
44	2.96827	3.21467	3.48249	3.77374	4.09061	4.43555	4.81126	5.22075
45	2.96827	3.21467	3.48249	3.77374	4.09061	4.43555	4.81126	5.22075
46	2.96827	3.21467	3.48249	3.77374	4.09061	4.43555	4.81126	5.22075
47	2.96827	3.21467	3.48249	3.77374	4.09061	4.43555	4.81126	5.22075
48	2.96827	3.21467	3.48249	3.77374	4.09061	4.43555	4.81126	5.22075
49	2.96827	3.21467	3.48249	3.77374	4.09061	4.43555	4.81126	5.22075
50	2.96827	3.21467	3.48249	3.77374	4.09061	4.43555	4.81126	5.22075
51		3.21467	3.48249	3.77374	4.09061	4.43555	4.81126	5.22075
52			3.48249	3.77374	4.09061	4.43555	4.81126	5.22075
53				3.38724	3.67166	3.98127	4.31849	4.68605
54					3.67166	3.98127	4.31849	4.68605
55						3.98127	4.31849	4.68605
56							4.31849	4.68605
57								4.68605
58								
59								
60								
61								
62								
63								
64								

~~Exhibit M.~~ ~~Transfer Calculation~~

~~Table 6.~~ ~~Age 58-65 at Date of Calculation~~

EFFECTIVE 10/1/92   ARIZONA STATE RETIREMENT SYSTEM
(BASIS - 50/50 BLEND 83GAM, M(-l), F(NO ADJ), 8%)

AGE AT HIRE	58	59	60	61	62	63	64	65
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32	10.40723							
33	9.92539							
34	9.44354	10.25627						
35	8.99999	9.77454						
36	8.55643	9.29281	10.09786					
37	8.14834	8.84960	9.61626					
38	7.74026	8.40639	9.13466	9.93197				
39	7.36504	7.99889	8.69185	9.45051				
40	6.98983	7.59139	8.24904	8.96906	9.75864			
41	6.64510	7.21698	7.84220	8.52671	9.27735			
42	6.30036	6.84258	7.43536	8.08436	8.79606	9.57801		
43	5.98390	6.49888	7.06189	7.67829	8.35424	9.09692		
44	5.66744	6.15518	6.68842	7.27221	7.91242	8.61582	9.39035	
45	5.66744	6.15518	6.68842	7.27221	7.91242	8.61582	9.39035	
46	5.66744	6.15518	6.68842	7.27221	7.91242	8.61582	9.39035	
47	5.66744	6.15518	6.68842	7.27221	7.91242	8.61582	9.39035	
48	5.66744	6.15518	6.68842	7.27221	7.91242	8.61582	9.39035	9.19601
49	5.66744	6.15518	6.68842	7.27221	7.91242	8.61582	9.39035	9.19601
50	5.66744	6.15518	6.68842	7.27221	7.91242	8.61582	9.39035	9.19601
51	5.66744	6.15518	6.68842	7.27221	7.91242	8.61582	9.39035	9.19601
52	5.66744	6.15518	6.68842	7.27221	7.91242	8.61582	9.39035	9.19601
53	5.08698	5.52477	6.00339	6.52740	7.10203	7.73339	8.42860	9.19601
54	5.08698	5.52477	6.00339	6.52740	7.10203	7.73339	8.42860	9.19601
55	5.08698	5.52477	6.00339	6.52740	7.10203	7.73339	8.42860	9.19601
56	5.08698	5.52477	6.00339	6.52740	7.10203	7.73339	8.42860	9.19601
57	5.08698	5.52477	6.00339	6.52740	7.10203	7.73339	8.42860	9.19601
58	5.08698	5.52477	6.00339	6.52740	7.10203	7.73339	8.42860	9.19601
59		5.52477	6.00339	6.52740	7.10203	7.73339	8.42860	9.19601
60			6.00339	6.52740	7.10203	7.73339	8.42860	9.19601
61				6.52740	7.10203	7.73339	8.42860	9.19601
62					7.10203	7.73339	8.42860	9.19601
63						7.73339	8.42860	9.19601
64							8.42860	9.19601

NOTICE OF PROPOSED RULEMAKING

TITLE 4. PROFESSIONS AND OCCUPATIONS

CHAPTER 23. BOARD OF PHARMACY

PREAMBLE

1. **Sections Affected**   **Rulemaking Action**
      R4-23-110   Amend
      R4-23-201   Amend
      R4-23-202   Amend
      R4-23-203   Amend
      R4-23-301   Amend
      R4-23-304   Amend

2. **The specific authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):**
      Authorizing statutes: A.R.S. § 32-1904(A)(1), (5), (7), and (10)

      Implementing statutes: A.R.S. §§ 32-1922 and 32-1923

3. **A list of all previous notices appearing in the Register addressing the proposed rules:**
      Notice of Rulemaking Docket Opening: 10 A.A.R. 368, January 30, 2004

4. **The name and address of agency personnel with whom persons may communicate regarding the rules:**
      Name: Dean Wright, Compliance Officer

      Address: Board of Pharmacy
                      4425 W. Olive Ave., Suite 140
                      Glendale, AZ 85302

      Telephone: (623) 463-2727, ext. 131

      Fax: (623) 934-0583

      E-mail: rxcop@cox.net

5. **An explanation of the rules, including the agency's reasons for initiating the rules:**
      The Board staff has identified some minor changes for Sections R4-23-110, R4-23-201, R4-23-202, R4-23-203, R4-23-301, and R4-23-304 to improve the clarity, conciseness, and understandability of the rules. The definition for "AZPLEX" will be removed from R4-23-110, because it is no longer used. The definition for "MPJE" will be amended to clarify its use. The definition for "delinquent license" will be amended to include the terms "pharmacy intern, graduate intern, and pharmacy technician." Sections R4-23-201, R4-23-202, R4-23-203, and R4-23-304 will be amended by replacing the term "AZPLEX" wherever it occurs with the term "MPJE." R4-23-301 will be amended by removing language from subsection (C) that indicates that the Board can determine an individual's intent to continue or not continue pursuing a pharmacy education. The rules will include format, style, and grammar necessary to comply with the current rules of the Secretary of State and Governor's Regulatory Review Council.

      The Board believes that approval of these rules benefits the public, pharmacists, pharmacy interns, and pharmacies by clearly establishing the standards for pharmacist and pharmacy intern licensure.

6. **A reference to any study relevant to the rule that the agency reviewed and either proposes to rely on or not rely on in its evaluation of or justification for the rules where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:**
      None

7. **A showing of good cause why the rules are necessary to promote a statewide interest if the rules will diminish a previous grant of authority of a political subdivision of this state:**
      Not applicable

8. **The preliminary summary of the economic, small business, and consumer impact:**
      The proposed rules will impact the Board, pharmacists, and pharmacy interns. The proposed rules' impact on the Board will be the usual rulemaking-related costs which are minimal. The proposed rules will have no economic impact on pharmacists or pharmacy interns. The changes to the rules are cosmetic and simply improve the clarity, conciseness, and understandability of the rules. The proposed rules have no economic impact on the public.

The public, Board, pharmacists, and pharmacies benefit from rules that are clear, concise, and, understandable. The proposed rules benefit the public, the Board, and the pharmacy community by clearly establishing the standards for pharmacist and pharmacy intern licensure.

9. The name and address of agency personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:

Name:	Dean Wright, Compliance Officer
Address:	Board of Pharmacy 4425 W. Olive Ave., Suite 140 Glendale, AZ 85302
Telephone:	(623) 463-2727, ext. 131
Fax:	(623) 934-0583
E-mail:	rxcop@cox.net

10. The time, place, and nature of the proceedings for the adoption, amendment, or repeal of the rules or, if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rules:

Comments may be written or presented orally. Written comments must be received by 5 p.m., Monday, June 28, 2004. An oral proceeding is scheduled for:

Date:	June 28, 2004
Time:	10:00 a.m.
Location:	4425 W. Olive Ave., Suite 140 Glendale, AZ 85302

A person may request information about the oral proceeding by contacting the person listed above.

11. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

Not applicable

12. Incorporations by reference and their location in the rules:

None

13. The full text of the rules follows:

TITLE 4. PROFESSIONS AND OCCUPATIONS

CHAPTER 23. BOARD OF PHARMACY

ARTICLE 1. ADMINISTRATION

Section
R4-23-110.   Definitions

ARTICLE 2. PHARMACIST LICENSURE

Section
R4-23-201.   General
R4-23-202.   Licensure by Examination
R4-23-203.   Licensure by Reciprocity

ARTICLE 3. INTERN TRAINING AND PHARMACY INTERN PRECEPTORS

Section
R4-23-301.   Intern Licensure
R4-23-304.   Reports

ARTICLE 1. ADMINISTRATION

R4-23-110.   Definitions
In addition to definitions in A.R.S. § 32-1901, the following definitions apply to 4 A.A.C. 23:
"Active ingredient" No change
"Alternate physician" No change
"Approved course in pharmacy law" No change

"Approved Provider" No change

"Authentication of product history" No change

~~"AZPLEX" means an Arizona pharmacy law examination written and administered by the Board staff or a Board approved national pharmacy law examination written and administered in cooperation with NABP.~~

"Batch" No change

"Beyond-use date" No change

"Biological safety cabinet" No change

"Class 100 environment" No change

"Community pharmacy" No change

"Component" No change

"Compounding and dispensing countering" No change

"Computer system" No change

"Computer system audit" No change

"Contact hour" No change

"Container" No change

"Continuing education" No change

"Continuing education activity" No change

"Continuing education unit" or "CEU" No change

"Correctional facility" No change

"CRT" No change

"Current good compounding practices" No change

"Current good manufacturing practice" No change

"Cytotoxic" No change

"Day" No change

"DEA" No change

"Delinquent license" means a pharmacist, ~~or~~ <u>pharmacy intern, graduate</u> intern<u>, or pharmacy technician</u> license the Board suspends for failure to renew or pay all required fees on or before the date the renewal is due.

"Dietary supplement" No change

"Dispensing pharmacist" No change

"Drug sample" No change

"Drug therapy management" No change

"Drug therapy management agreement" No change

"Extreme emergency" No change

"FDA" No change

"Immediate notice" No change

"Inactive ingredient" No change

"Internal test assessment" No change

"Limited-service correctional pharmacy" No change

"Limited-service long-term care pharmacy" No change

"Limited-service mail-order pharmacy" No change

"Limited-service nuclear pharmacy" No change

"Limited-service pharmacy permittee" No change

"Long-term care consultant pharmacist" No change

"Long-term care facility" or "LTCF" No change

"Lot" No change

"Lot number" or "control number" No change

"Materials approval unit" No change

"Mediated instruction" No change

"MPJE" means Multistate Pharmacy Jurisprudence Examination<u>, a Board-approved national pharmacy law examination written and administered in cooperation with NABP</u>.

"NABP" No change

"NABPLEX" No change

"NAPLEX" No change

"Other designated personnel" No change

"Outpatient" No change

"Outpatient setting" No change

"Patient profile" No change

"Pharmaceutical patient care services" No change

"Pharmacy counter working area" No change

"Pharmacy law continuing education" No change

"Prepackaged drug" No change

"Provider pharmacy" No change

"Radiopharmaceutical" No change

"Radiopharmaceutical quality assurance" No change

"Radiopharmaceutical services" No change

"Red C stamp" No change

"Remodel" No change

"Remote drug storage area" No change

"Resident" No change

"Responsible person" No change

"Score transfer" No change

"Sight-readable" No change

"Single-drug audit" No change

"Single-drug usage report" No change

"Sterile pharmaceutical product" No change

"Strength" No change

"Supervision" means a pharmacist is present, assumes legal responsibility, and has direct oversight of activities relating to acquiring, preparing, distributing, and selling prescription medications by pharmacy interns, graduate interns, pharmacy technicians, or ~~certified~~ pharmacy ~~technicians~~ technician trainees and when used in connection with the intern training requirements means that, in a pharmacy where intern training occurs, a pharmacy intern preceptor assumes the primary responsibility of teaching the intern during the entire period of the training.

"Supervisory physician" No change

"Supplying" No change

"Support personnel" means an individual, working under the supervision of a pharmacist, trained to perform clerical duties associated with the practice of pharmacy including cashiering, bookkeeping, pricing, stocking, delivering, answering non-professional telephone inquires, and documenting third-party reimbursement. Support personnel shall not perform the tasks of a pharmacist, pharmacy intern, graduate intern, pharmacy technician, or ~~certified~~ pharmacy technician trainee.

"Transfill" No change

"Wholesale distribution" No change

"Wholesale distributor" No change

ARTICLE 2. PHARMACIST LICENSURE

R4-23-201.   General
A. Licensure required: Before posing or practicing as a pharmacist in Arizona, a person shall possess a valid pharmacist license issued by the Board. There is no temporary licensure.
B. Methods of licensure: Licensure as a pharmacist shall be either:
　1. By practical examination, using paper and pencil written testing, computer adaptive testing, or other Board-approved testing methods; or
　2. By reciprocity.
C. Practicing pharmacist holding a delinquent license: Before an Arizona pharmacist license will be reinstated, a pharmacist, whose Arizona pharmacist license is delinquent for five or more years and who is practicing pharmacy outside the Board's jurisdiction with a pharmacist license issued by another jurisdiction, shall:
　1. Pass the ~~AZPLEX~~ MPJE or other Board-approved jurisprudence examination,
　2. Pay all delinquent annual renewal fees, and
　3. Pay penalty fees.
D. Non-practicing pharmacist holding a delinquent license: Before an Arizona pharmacist license will be reinstated, a pharmacist, whose Arizona pharmacist license is delinquent for five or more years and who did not practice pharmacy within the last year, shall complete the requirements in subsection (C) and appear before the Board to furnish satisfactory proof of fitness to be licensed as a pharmacist.

R4-23-202.   Licensure by Examination
A. Eligibility. To be eligible for licensure as a pharmacist by examination, a person shall:
　1. Have an undergraduate degree in pharmacy from a school or college of pharmacy whose professional degree program, at the time the person graduates, is accredited by the American Council on Pharmaceutical Education; or
　2. Qualify under the requirements of A.R.S. § 32-1922(C); and
　3. Complete not less than 1500 hours of intern training as specified in R4-23-303.
B. Application.

1. An applicant for licensure by examination shall file with the Board office:
   a. A completed application for licensure by examination form,
   b. A completed NAPLEX registration form or ensure receipt of an official NABP score transfer report through the Board office online computer link with NABP indicating the applicant's score on the NAPLEX taken in another jurisdiction, and
   c. A completed ~~AZPLEX~~ MPJE registration form.
2. The Board office shall deem an application or registration form received on the date that the Board office stamps on the form as the form is delivered to the Board office. The Board office shall deem a score transfer received on the date that the NABP transmits the applicant's official NABP score transfer report through the online computer link to the Board office.
3. An applicant for licensure by examination shall:
   a. Make application on a form furnished by the Board, and
   b. Submit with the application for licensure by examination form:
      i. The documents specified in the application form, and
      ii. The examination fee specified in R4-23-205(C) made payable to the Arizona State Board of Pharmacy by money order or certified or personal check.
4. An applicant for licensure by examination shall:
   a. Make NAPLEX and ~~AZPLEX~~ MPJE registration on forms furnished by the Board or NABP; and
   b. Submit with the registration forms:
      i. The documents specified in the registration forms; and
      ii. The examination fee specified by and made payable to NABP by money order, certified check, or bank draft.
5. The Board shall deem an application for licensure by examination or a NAPLEX or ~~AZPLEX~~ MPJE registration to be invalid after 12 months from the date the Board office determines an application or registration form is complete. An applicant whose application or registration form is invalid and who wishes to continue licensure procedures, shall submit a new application or registration form and fee.

C. Passing grade; notification; re-examination.
1. To pass the required examinations, an applicant shall obtain a score of at least 75 on both the NAPLEX and ~~AZPLEX~~ MPJE.
2. The Board office shall:
   a. Retrieve an applicant's NAPLEX and ~~AZPLEX~~ MPJE score from the NABP online database no later than two weeks after the applicant's examination date; and
   b. Mail an applicant's NAPLEX and ~~AZPLEX~~ MPJE score to the applicant no later than seven days after the Board office receives the applicant's score from NABP.
3. An applicant who fails the NAPLEX or ~~AZPLEX~~ MPJE may apply to retake the examination within the 12-month period defined in subsection(B)(5). An applicant applying to retake an examination shall submit to the Board office a completed NAPLEX or ~~AZPLEX~~ MPJE registration form and pay the examination fee specified by and made payable to NABP by money order, certified check, or bank draft. An applicant who fails the NAPLEX or ~~AZPLEX~~ MPJE three times shall petition the Board for permission before retaking the examination.

D. NAPLEX score transfer.
1. An applicant who receives a passing score on the NAPLEX taken in another jurisdiction shall, within 12 months from the date the Board office receives the applicant's official NABP score transfer report from the NABP, make application for licensure according to subsection (B). After 12 months, an applicant may reapply for licensure in this state under the provisions of subsection (B) or R4-23-203(B).
2. An applicant who takes the NAPLEX in another jurisdiction and fails the examination may apply for licensure in this state under the provisions of subsection (B).

E. Licensure. The Board office shall issue a certificate of licensure to a successful applicant upon receipt of the licensure fee specified in R4-23-205(A)(1)(a). The Board office shall:
1. Provide a receipt for payment of the licensure fee to an applicant who delivers a payment in person, or
2. Mail a receipt for payment of the licensure fee to an applicant within one working day of receiving the payment by mail or other delivery service.

F. Time-frames for licensure by examination.
1. The Board office shall complete an administrative completeness review within 20 days from the date of receipt of an application or registration form.
   a. The Board office shall issue a written notice of administrative completeness to the applicant if no deficiencies are found in the application or registration form.
   b. If the application or registration form is incomplete, the Board office shall provide the applicant with a written notice that includes a comprehensive list of the missing information. The 20-day time-frame for the Board office to finish the administrative completeness review is suspended from the date the notice of incompleteness is served until the applicant provides the Board office with all missing information.

  c. If the Board office does not provide the applicant with notice regarding administrative completeness, the application or registration form shall be deemed complete 20 days after receipt by the Board office.

 2. An applicant with an incomplete application or registration form shall submit all of the missing information within 30 days of service of the notice of incompleteness.

  a. If an applicant cannot submit all missing information within 30 days of service of the notice of incompleteness, the applicant may send a written request for an extension to the Board office post marked or delivered no later than 30 days from service of the notice of incompleteness.

  b. The written request for an extension shall document the reasons the applicant is unable to meet the 30-day deadline.

  c. The Board office shall review the request for an extension of the 30-day deadline and grant the request if the Board office determines that an extension of the deadline will enable the applicant to assemble and submit the missing information. An extension shall be for no more than 30 days. The Board office shall notify the applicant in writing of its decision to grant or deny the request for an extension. An applicant who requires an additional extension shall submit an additional written request in accordance with this subsection.

 3. If an applicant fails to submit a complete application or registration form within the time allowed, the Board office shall close the applicant's file. An applicant whose file is closed and who later wishes to obtain a license shall apply again in accordance with subsection (B).

 4. The Board office shall complete a substantive review of the applicant's qualifications in no more than 20 days from the date on which the administrative completeness review of an application or registration form is complete.

  a. If an applicant is found to be ineligible for licensure by examination, the Board office shall issue a written notice of denial to the applicant.

  b. If an applicant is found to be eligible to take the NAPLEX, the Board office shall issue a written notice of eligibility to the applicant and the NABP.

  c. If an applicant is found to be eligible to take the ~~AZPLEX~~ <u>MPJE</u>, the Board office shall issue a written notice of eligibility to the applicant and the NABP.

  d. If the Board office finds deficiencies during the substantive review of an application or registration form, the Board office shall issue a written request to the applicant for additional documentation.

  e. The 20-day time-frame for a substantive review of eligibility to take the NAPLEX or ~~AZPLEX~~ <u>MPJE</u> is suspended from the date of a written request for additional documentation until the date that all documentation is received. The applicant shall submit the additional documentation in accordance with subsection (F)(2).

  f. If the applicant and the Board office mutually agree in writing, the 20-day substantive review time-frame may be extended once for no more than 10 days.

 5. For the purpose of A.R.S. § 41-1072 et seq., the Board establishes the following time-frames for licensure by examination.

  a. Administrative completeness review time-frame: 20 days.

  b. Substantive review time-frame: 20 days.

  c. Overall time-frame: 40 days.

R4-23-203. Licensure by Reciprocity

A. Eligibility. A person is eligible for licensure by reciprocity who:

 1. Is licensed as a pharmacist in a jurisdiction that provides reciprocity to Arizona licensees;

 2. Has passed the NABPLEX or NAPLEX with a score of 75 or better or was licensed by examination in another jurisdiction having essentially the same standards for licensure as this state at the time the pharmacist was licensed;

 3. Provides evidence to the Board of having completed the required secondary and professional education and training specified in R4-23-202(A);

 4. Has engaged in the practice of pharmacy for at least one year or has met the internship requirements of Article 3 within the year immediately before the date of application; and

 5. Has actively practiced as a pharmacist for 400 or more hours within the last calendar year or has an Arizona graduate intern license and has completed 400 hours of internship training in an approved internship training site.

B. Application.

 1. An applicant for licensure by reciprocity shall file with the Board office:

  a. A completed application for licensure by reciprocity form; and

  b. A completed ~~AZPLEX~~ <u>MPJE</u> registration form.

 2. The Board office shall deem an application or registration form received on the date that the Board office stamps on the application or registration form as the form is delivered to the Board office.

 3. An applicant for licensure by reciprocity shall:

  a. Make application on a form furnished by the Board, and

  b. Submit with the application for licensure by reciprocity form:

   i. The documents specified in the application form, and

      ii.   The reciprocity and examination fee specified in R4-23-205(B) and (C) and made payable to the Arizona State Board of Pharmacy by money order or certified or personal check.

4. An applicant for licensure by reciprocity shall:
   a. Make ~~AZPLEX~~ <u>MPJE</u> registration on a form furnished by the Board or NABP; and
   b. Submit with the registration form:
      i. The documents specified in the registration form; and
      ii.   The examination fee specified by and made payable to NABP by money order, certified check, or bank draft.
5. The Board office shall deem an application for licensure by reciprocity form or ~~AZPLEX~~ <u>MPJE</u> registration invalid after 12 months from the date the Board office determines an application or registration form is complete. An applicant whose application or registration form is invalid and who wishes to continue licensure procedures, shall submit a new application or registration form and fee.

C. Passing grade; notification; re-examination.
1. To pass the required examination, an applicant shall obtain a score of at least 75 on the ~~AZPLEX~~ <u>MPJE</u>.
2. The Board office shall:
   a. Retrieve an applicant's ~~AZPLEX~~ <u>MPJE</u> score from the NABP online database no later than two weeks after the applicant's examination date; and
   b. Mail an applicant's ~~AZPLEX~~ <u>MPJE</u> score to the applicant no later than seven days after the Board office receives the applicant's score from NABP.
3. An applicant who fails the ~~AZPLEX~~ <u>MPJE</u> may apply to retake the examination within the 12-month period specified in subsection (B)(5). An applicant applying to retake an examination shall submit to the Board office a completed ~~AZPLEX~~ <u>MPJE</u> registration form and pay the examination fee specified by and made payable to NABP by money order, certified check, or bank draft. An applicant who fails the ~~AZPLEX~~ <u>MPJE</u> three times shall petition the Board for permission before retaking the examination.

D. Licensure. The Board office shall issue a certificate of licensure to a successful applicant upon receipt of the licensure fee specified in R4-23-205(A)(1)(a). The Board office shall:
1. Provide a receipt for payment of the licensure fee to an applicant who delivers a payment in person; or
2. Mail a receipt for payment of the licensure fee to an applicant within one working day of receiving the payment by mail or other delivery service.

E. Time-frames for licensure by reciprocity. The Board office shall follow the time-frames established for licensure by examination in R4-23-202(F).

ARTICLE 3. INTERN TRAINING AND PHARMACY INTERN PRECEPTORS

R4-23-301. Intern Licensure

A. Licensure as a pharmacy intern or graduate intern is for the purpose of complementing the individual's academic or experiential education in preparation for licensure as a pharmacist. An applicant may request a waiver of intern licensure requirements by submitting a written request and appearing in person at a Board meeting.

B. The prerequisites for licensure as a pharmacy intern are:
1. Current enrollment, in good standing, in a Board-approved college or school of pharmacy; or
2. Graduation from a college or school of pharmacy that is not approved by the Board; and
3. Proof that the applicant received:
   a. A passing score on the Foreign Pharmacy Graduate Equivalency Examination (FPGEE); or
   b. Acceptance to take the FPGEE; or
4. By order of the Board if the Board determines the applicant needs intern training.

C. If ~~the Board determines that~~ a pharmacy intern licensee stops attending pharmacy school classes before <u>completing the pharmacy school's requirements for</u> graduation ~~under circumstances indicating the licensee does not intend to continue the licensee's pharmacy education~~, the licensee shall <u>immediately stop practicing as a pharmacy intern and</u> surrender the pharmacy intern license <u>to the Executive Director or the Executive Director's designee</u> no later than 30 days after the date of the last attended class<u>, unless the licensee requests and is granted permission by the Board to continue working as a pharmacy intern</u>. A student re-entering a pharmacy program who wishes to continue internship training shall reapply for pharmacy intern licensure.

D. The prerequisites for licensure as a graduate intern are:
1. Graduate from a Board-approved college or school of pharmacy, and
2. Apply for licensure as a pharmacist by examination or reciprocity, or
3. By order of the Board if the Board determines that the applicant needs intern training.

E. Experiential training. Intern training shall include the activities and services encompassed by the term "practice of pharmacy" as defined in A.R.S. § 32-1901.

F. Out-of-state experiential training. An intern shall receive credit for intern training received outside this state if the Board

determines that the intern training requirements of the jurisdiction in which the training was received are equal to the minimum requirements for intern training in this state. An applicant seeking credit for intern training received outside this state shall furnish a certified copy of the records of intern training from:

1. The board of pharmacy or the intern licensing agency of the other jurisdiction where the training was received; or
2. In a jurisdiction without an intern licensing agency, the director of the applicant's Board-approved college or school of pharmacy's experiential training program.

G. Management required to verify intern's qualifications. An owner, manager, or pharmacist-in-charge shall not permit a person to act as a pharmacy or graduate intern until the owner, manager, or pharmacist-in-charge verifies that the person is currently licensed by the Board as a pharmacy or graduate intern.

H. Intern application. An applicant for licensure as a pharmacy intern or graduate intern shall:
1. Ensure that the applicant's college or school of pharmacy provides documentation to the Board of the applicant's current enrollment or graduation; and
2. File an application on a form furnished by the Board, that includes:
   a. Applicant's name, address, mailing address, if different, telephone number, and social security number;
   b. Name and address of college or school of pharmacy attending or attended, degree anticipated or received, and anticipated date or date of graduation;
   c. Whether the applicant has ever been convicted of an offense involving moral turpitude, a felony offense, or any drug-related offense or has any currently pending felony or drug-related charges, and if so, indicate charge, conviction date, jurisdiction, and location;
   d. Whether the applicant has ever had an intern license revoked, suspended, or denied in this state or any other jurisdiction, and if so, indicate where and when;
   e. A recent photograph of the applicant that is no larger than 2 1/2" x 3" with the applicant's signature on the front;
   f. If the applicant graduated from an unapproved college or school of pharmacy, a verification of acceptance to take the FPGEE or an original Foreign Pharmacy Graduate Equivalency Committee (FPGEC) certification document;
   g. Date signed and applicant's verified signature; and
   h. The initial licensure fee specified in R4-23-205.

I. Licensure. Within seven business days of receipt of a completed application, fees, and other information specified in subsection (H), the Board office shall issue a determination. If the application is complete, the Board office shall issue a license number and mail a current renewal receipt to an applicant. An applicant who is issued a license number may begin practice as a pharmacy intern or graduate intern. The initial licensure fee shall include the issuance of a wall certificate. The Board office shall mail the wall certificate to the licensee within 14 days of issuing the license number.

J. License renewal. An intern license shall be kept in good standing by payment of the biennial renewal fee specified in R4-23-205. If a pharmacy intern fails to graduate from a Board-approved college or school of pharmacy within six years from the date the Board issues the intern license, the intern is not eligible for relicensure as an intern unless the intern obtains Board approval as specified in A.R.S. § 32-1923(E). If the biennial renewal fee is not paid by November 1 of the renewal year specified in A.R.S. § 32-1925, the intern license is suspended and the licensee shall pay a penalty as provided in A.R.S. § 32-1925 to vacate the suspension.

K. Notification of training.
1. A pharmacy intern who is employed as an intern outside the experiential training program of a Board-approved college or school of pharmacy or a graduate intern shall notify the Board within ten days of starting or terminating training, or changing training site.
2. The director of a Board-approved college or school of pharmacy's experiential training program shall provide the Board an intern training report as specified in R4-23-304(B)(3).

R4-23-304. Reports

A. Change of employment or mailing address. A pharmacy intern or graduate intern shall notify the Board within 10 days of change of employment or mailing address.

B. Quarterly reports.
1. A pharmacy intern who is a graduate of a college or school of pharmacy that is not approved by the Board or is a graduate intern shall provide the Board quarterly intern training reports for the duration of training. A quarterly intern training report shall be filed October 1, January 1, April 1 and July 1 for the preceding quarter, whether the intern was in training or not during the quarter. A quarterly intern training report is delinquent if not received at the Board's office 30 days after the due date. The Board shall write the intern to acknowledge receipt of the reports and notify the intern of the remaining hours of training required. A quarterly intern training report shall include:
   a. Intern's name, address, and license number;
   b. Training site name and address;
   c. Pharmacy intern preceptor's name and license number;
   d. Whether the report is for the first quarter (Jan.-Mar.), second quarter (Apr.-June), third quarter (July-Sept.), or fourth quarter (Oct.-Dec.);

  e. Number of intern training hours per week, specified by week ending date (month, day, year) and total number of intern training hours for the quarter; and

  f. Date signed and pharmacy intern preceptor's signature verifying that the pharmacy intern preceptor has been actively engaged in the practice of pharmacy for at least one year and that the pharmacy intern preceptor supervised the intern training of the pharmacy or graduate intern identified in the quarterly intern training report.

 2. A pharmacy intern seeking credit for intern training hours received outside an approved college or school of pharmacy's experiential training program shall provide the Board a quarterly intern training report as specified in subsection (B)(1)

 3. After graduation and before sitting for the NAPLEX or ~~AZPLEX~~ MPJE, a pharmacy intern who is a graduate of a Board-approved college or school of pharmacy shall ensure that the director of the Board-approved college or school of pharmacy's experiential training program provides the Board an intern training report that includes:

  a. A list of all training sites where training occurred during any part of the entire training program including addresses and telephone numbers;

  b. The dates and number of training hours experienced, by training site and total;

  c. The name of the pharmacy intern preceptor, if applicable, for each training site; and

  d. The date signed and experiential training program director's signature verifying that the pharmacy intern successfully completed the experiential training program.

NOTICE OF PROPOSED RULEMAKING

TITLE 4. PROFESSIONS AND OCCUPATIONS

CHAPTER 23. BOARD OF PHARMACY

PREAMBLE

1. **Sections Affected**   **Rulemaking Action**
  R4-23-610   Amend
  R4-23-672   Amend
  R4-23-673   Amend

2. **The specific authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):**
  Authorizing statutes: A.R.S. § 32-1904(A)(1) and (2)

  Implementing statutes: A.R.S. §§ 32-1929, 32-1930, and 32-1931

3. **A list of all previous notices appearing in the Register addressing the proposed rules:**
  Notice of Rulemaking Docket Opening: 10 A.A.R. 978, March 12, 2004

4. **The name and address of agency personnel with whom persons may communicate regarding the rules:**
  Name: Dean Wright, Compliance Officer

  Address: Board of Pharmacy
         4425 W. Olive Ave., Suite 140
         Glendale, AZ 85302

  Telephone: (623) 463-2727, ext. 131

  Fax: (623) 934-0583

  E-mail: rxcop@cox.net

5. **An explanation of the rules, including the agency's reasons for initiating the rules:**
  The Board staff has identified some minor changes for Sections R4-23-610, R4-23-672, and R4-23-673 to improve the clarity, conciseness, and understandability of the rules. The rules are being amended to make correct citations to other rules that have been recently amended. The proposed rules will replace the term "certified pharmacy technician" with the term "pharmacy technician trainee." The rules will include format, style, and grammar necessary to comply with the current rules of the Secretary of State and Governor's Regulatory Review Council.

  The Board believes that approval of these rules benefits the public and the pharmacy community by clearly establishing the standards for community pharmacy personnel and security procedures and limited-service pharmacy permits.

6. **A reference to any study relevant to the rule that the agency reviewed and either proposes to rely on or not rely on in its evaluation of or justification for the rules where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:**

None

7. **A showing of good cause why the rules are necessary to promote a statewide interest if the rules will diminish a previous grant of authority of a political subdivision of this state:**

Not applicable

8. **The preliminary summary of the economic, small business, and consumer impact:**

The proposed rules will impact the Board, pharmacists, and pharmacies. The proposed rules' impact on the Board will be the usual rulemaking-related costs which are minimal. The proposed rules will have no economic impact on pharmacists or pharmacies. The changes to the rules are cosmetic and simply improve the clarity, conciseness, and understandability of the rules. The proposed rules have no economic impact on the public.

The public, Board, pharmacists, and pharmacies benefit from rules that are clear, concise, and, understandable. The proposed rules benefit the public, the Board, and the pharmacy community by clearly establishing the standards for community pharmacy personnel and security procedures and limited-service pharmacy permits.

9. **The name and address of agency personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:**

Name:	Dean Wright, Compliance Officer
Address:	Board of Pharmacy
	4425 W. Olive Ave., Suite 140
	Glendale, AZ 85302
Telephone:	(623) 463-2727, ext. 131
Fax:	(623) 934-0583
E-mail:	rxcop@cox.net

10. **The time, place, and nature of the proceedings for the adoption, amendment, or repeal of the rules or, if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rules:**

Comments may be written or presented orally. Written comments must be received by 5 p.m., Monday, June 28, 2004. An oral proceeding is scheduled for:

Date:	June 28, 2004
Time:	10:00 a.m.
Location:	4425 W. Olive Ave., Suite 140
	Glendale, AZ 85302

A person may request information about the oral proceeding by contacting the person listed above.

11. **Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:**

Not applicable

12. **Incorporations by reference and their location in the rules:**

None

13. **The full text of the rules follows:**

TITLE 4. PROFESSIONS AND OCCUPATIONS

CHAPTER 23. BOARD OF PHARMACY

ARTICLE 6. PERMITS AND DISTRIBUTION OF DRUGS

Section
R4-23-610.   Community Pharmacy Personnel and Security Procedures
R4-23-672.   Limited-service Correctional Pharmacy
R4-23-673.   Limited-service Mail-order Pharmacy

ARTICLE 6. PERMITS AND DISTRIBUTION OF DRUGS

R4-23-610.   Community Pharmacy Personnel and Security Procedures
A. Every pharmacy shall have a pharmacist designated as the "pharmacist-in-charge."
    1.   The pharmacist-in-charge shall ensure the communication and compliance of Board directives to the management, other pharmacists, interns, and technicians of the pharmacy.

2. The pharmacist-in-charge shall:
   a. Ensure that all pharmacy policies and procedures required under 4 A.A.C. 23 are prepared and implemented;
   a.b. ~~Conduct a biennial review and revision of~~ Review biennially and, if necessary, revise all pharmacy policies and procedures required under 4 A.A.C. 23~~,~~;
   c. Document the review required under subsection (A)(2)(b);
   d. Ensure that all pharmacy policies and procedures required under 4 A.A.C. 23 are assembled as a written manual or by another method approved by the Board or its designee; and
   b.e.   Make all pharmacy policies and procedures required under 4 A.A.C. 23 available in the pharmacy for employee reference and inspection by the Board or its designee.
   3.   ~~The pharmacist-in-charge shall ensure that the ratio of technicians to pharmacists working in the pharmacy does not exceed the ratio in R4-23-403(C).~~

B. Personnel permitted in the pharmacy area of a community pharmacy include pharmacists, graduate interns, pharmacy interns, compliance officers, drug inspectors, peace officers acting in their official capacity, other persons authorized by law, pharmacy technicians, ~~certified~~ pharmacy ~~technicians~~ technician trainees, support personnel, and other designated personnel. Pharmacy interns, graduate interns, pharmacy technicians, ~~certified~~ pharmacy ~~technicians~~ technician trainees, support personnel, and other designated personnel shall be permitted in the pharmacy area only when a pharmacist is on duty, except in an extreme emergency.
   1. The pharmacist-in-charge shall comply with the minimum area requirements as described in R4-23-609 for a community pharmacy and for compounding and dispensing counter area.
   2. A pharmacist employed by a pharmacy shall ensure that the pharmacy is physically ~~and electronically~~ secure while the pharmacist is on duty.

C. In a community pharmacy, the pharmacy area, and any additional storage area for drugs that is restricted to access only by a pharmacist, except in an extreme emergency, shall be locked when a pharmacist is not present.

D. A pharmacist shall be the only person permitted to unlock the pharmacy area or any additional storage area for drugs restricted to access only by a pharmacist, except in an extreme emergency.

E. Prescription-only drugs and controlled substances received in an area outside the pharmacy area shall be immediately transferred unopened to the pharmacy area. Prescription-only drug and controlled substance shipments shall be opened and marked in the pharmacy area under the supervision of a pharmacist, graduate intern, or pharmacy intern.

F. A written prescription order or prescription medication container to be refilled may be left in the prescription area through a small opening or slot when the pharmacist is not present.

G. A pharmacist shall deliver prescription medication to the patient or secure prescription medication in the locked pharmacy when a pharmacist is not present. Prescription medication shall not be left outside the prescription area or picked up by the patient when the pharmacist is not present.

R4-23-672.   Limited-service Correctional Pharmacy

A. The limited-service pharmacy permittee shall ensure that the limited-service correctional pharmacy complies with the standards for area, personnel, security, sanitation, equipment, drug distribution and control, administration of drugs, drug source, quality assurance, investigational drugs, and inspections as set forth in R4-23-608, R4-23-609(A) through (D) and (F) through (H), R4-23-610(A), R4-23-611, R4-23-612, ~~R4-23-653(D), except (2)(e)~~ R4-23-653(E), R4-23-658(B) through ~~(H)~~ (E), ~~and R4-23-660 through R4-23-664~~ R4-23-659, and R4-23-660.

B. The pharmacist-in-charge of a limited-service correctional pharmacy shall authorize only pharmacists, interns, pharmacy technicians, pharmacy technician trainees, compliance officers, drug inspectors, peace officers, and correctional officers acting in their official capacities, ~~supportive~~ other persons authorized by law, support personnel, and other designated personnel to be in the limited-service correctional pharmacy.

C. When no pharmacist will be on duty in the correctional facility, the pharmacist-in-charge shall arrange, before there is no pharmacist on duty, for the medical staff and other authorized personnel of the correctional facility to have access to drugs in remote drug storage areas or, if a drug is not available in a remote drug storage area and is required to treat the immediate needs of a patient, in the limited-service correctional pharmacy.
   1. The pharmacist-in-charge shall, in consultation with the appropriate committee of the correctional facility, develop and implement procedures to ensure that remote drug storage areas:
      a. Contain only properly labeled drugs that might reasonably be needed and can be administered safely during the absence of a pharmacist,
      b. Contain drugs packaged only in amounts sufficient for immediate therapeutic requirements,
      c. Are accessible only with a physician's written order,
      d. Provide a written record of each drug withdrawn,
      e. Are inventoried at least once each week, and
      f. Are audited for compliance with the requirements of this rule at least once each month.
   2. The pharmacist-in-charge shall, in consultation with the appropriate committee of the correctional facility, develop and implement procedures to ensure that access to the limited-service correctional pharmacy when no pharmacist is

on duty conforms to the following requirements:
   a.   Is delegated to only one nurse, who is in a supervisory position;
   b.   Is communicated in writing to medical staff of the correctional facility;
   c.   Is delegated only to a nurse who has received training from the pharmacist-in-charge in proper methods of access, removal of drugs, and records and procedures required; and
   d.   Is delegated by the supervisory nurse to another nurse only in emergencies.
3.   When a nurse to whom authority to access the limited-service correctional pharmacy is delegated removes a drug from the limited-service correctional pharmacy, the nurse shall:
   a.   Record the following information on a form:
      i.   Patient's name,
      ii.   Name of the drug and its strength and dosage form,
      iii. Dose prescribed,
      iv.   Amount of drug removed, and
      v.   Date and time of removal;
   b.   Sign the form recording the drug removal;
   c.   Attach the original or a direct copy of a physician's written order for the drug to the form recording the drug removal; and
   d.   Place the form recording the drug removal conspicuously in the limited-service correctional pharmacy.
4.   Within four hours after a pharmacist in the limited-service correctional pharmacy returns to duty following an absence in which the limited-service correctional pharmacy was accessed by a nurse to whom authority had been delegated, the pharmacist shall verify all records of drug removal in accordance with R4-23-402.
D.   When no pharmacist will be on duty in the correctional facility, the pharmacist-in-charge shall arrange, before there is no pharmacist on duty, for the medical staff and other authorized personnel of the correctional facility to have telephone access to a pharmacist.
E.   The limited-service pharmacy permittee shall ensure that the limited-service correctional pharmacy is without a pharmacist on duty for no more than 96 consecutive hours.
F.   In addition to the requirements of R4-23-671, the limited-service pharmacy permittee shall secure the limited-service correctional pharmacy by conforming with the following standards:
1.   Permit no one to be in the limited-service correctional pharmacy unless a pharmacist is on duty except:
   a.   As provided in subsection (C)(3) when no pharmacist is on duty; or
   b.   Pharmacy technicians <u>and pharmacy technician trainees</u> may remain to perform duties outlined in ~~R4-23-653(D)(2), except subsection (D)(2)(e)~~ <u>R4-23-1104(A)</u>, when a pharmacist is on duty and available in the correctional facility but temporarily absent from the pharmacy, provided<u>:</u>
      <u>i.</u>   ~~all~~ <u>All</u> controlled substances are secured in a manner that prohibits access by persons other than a pharmacist<u>;</u>
      <u>ii.   Activities performed by pharmacy technicians and pharmacy technician trainees while the pharmacist is temporarily absent are verified by the pharmacist immediately upon returning to the pharmacy;</u>
      <u>iii. Any drug measured, counted, poured, or otherwise prepared and packaged by pharmacy technicians and pharmacy technician trainees while the pharmacist is temporarily absent is verified by the pharmacist immediately upon returning to the pharmacy; and</u>
      <u>iv.   Any drug that has not been verified by a pharmacist for accuracy is not dispensed, supplied, or distributed while the pharmacist is temporarily absent from the pharmacy; and</u>
2.   Provide keyed or programmable locks to all areas of the limited-service correctional pharmacy.
G.   The pharmacist-in-charge of a limited-service correctional pharmacy shall ensure that the written policies and procedures for pharmacy operations and drug distribution within the correctional facility include the following:
1.   Physicians' orders, prescription orders, or both;
2.   Authorized abbreviations;
3.   Formulary system;
4.   Clinical services and drug utilization management including:
   a.   Participation in drug selection,
   b.   Drug utilization reviews,
   c.   Inventory audits,
   d.   Patient outcome monitoring,
   e.   Committee participation,
   f.   Drug information, and
   g.   Education of pharmacy and other health professionals;
5.   Duties and qualifications of professional and support staff;
6.   Products of abuse and contraband medications;
7.   Controlled substances;

8. Drug administration;
9. Drug product procurement;
10. Drug compounding, dispensing, and storage;
11. Stop orders;
12. Pass/Discharge medications;
13. Investigational drugs and their protocols;
14. Patient profiles;
15. Quality management procedures for:
    a. Adverse drug reactions;
    b. Drug recalls;
    c. Expired and beyond-use-date drugs;
    d. Medication or dispensing errors;
    e. Drug storage; and
    f. Education of professional staff, support staff, and patients;
16. Recordkeeping;
17. Sanitation;
18. Security;
19. Access to remote drug storage areas by non-pharmacists; and
20. Access to limited-service correctional pharmacy by non-pharmacists.

R4-23-673.   Limited-service Mail-order Pharmacy
A. The limited-service pharmacy permittee shall design and construct the limited-service mail-order pharmacy to conform with the following requirements:
1. A dispensing area devoted to stocking, compounding, and dispensing prescription medications, which is physically separate from a non-dispensing area devoted to non-dispensing pharmacy services;
2. A dispensing area of at least 300 square feet if three or fewer persons work in the dispensing area simultaneously;
3. A dispensing area that provides 300 square feet plus 60 square feet for each person in excess of three persons if more than three persons work in the dispensing area simultaneously;
4. Space in the dispensing area permits efficient pharmaceutical practice, free movement of personnel, and visual surveillance by the pharmacist;
5. A non-dispensing area of at least 30 square feet for each person working simultaneously in the non-dispensing area; and
6. Space in the non-dispensing area permits free movement of personnel and visual surveillance by the pharmacist; or
B. The limited-service pharmacy permittee shall design and construct the limited-service mail-order pharmacy to conform with the following requirements:
1. A contiguous area in which both dispensing and non-dispensing pharmacy services are provided;
2. A contiguous area of at least 300 square feet if three or fewer persons work in the area simultaneously;
3. A contiguous area that provides 300 square feet plus 60 square feet for each person in excess of three persons if more than three persons work in the area simultaneously; and
4. Space in the contiguous area permits efficient pharmaceutical practice, free movement of personnel, and visual surveillance by the pharmacist.
C. The limited-service pharmacy permittee shall ensure that the limited-service mail-order pharmacy complies with the standards for area, personnel, security, sanitation, and equipment set forth in R4-23-608, R4-23-609(B) through (H), R4-23-610(A) and (C) through (F), R4-23-611, and R4-23-612.
D. The pharmacist-in-charge of a limited-service mail-order pharmacy shall authorize only pharmacists, interns, pharmacy technicians, pharmacy technician trainees, <u>compliance officers,</u> drug inspectors, peace officers acting in their official capacities, support personnel, <u>other persons authorized by law,</u> and other designated personnel to be in the limited-service mail-order pharmacy.
E. The pharmacist-in-charge of a limited-service mail-order pharmacy shall ensure that prescription medication is delivered to the patient or locked in the dispensing area when a pharmacist is not present in the pharmacy.
F. In addition to the delivery requirements of R4-23-402, the limited-service pharmacy permittee shall, during regular hours of operation but not less than five days and a minimum 40 hours per week, provide toll-free telephone service to facilitate communication between patients and a pharmacist who has access to patient records at the limited-service mail-order pharmacy. The limited-service pharmacy permittee shall disclose this toll-free number on a label affixed to each container of drugs dispensed from the limited-service mail-order pharmacy.
G. The pharmacist-in-charge of a limited-service mail-order pharmacy shall ensure that the written policies and procedures for pharmacy operations and drug distribution include the following:
1. Prescription orders;
2. Clinical services and drug utilization management for:

a. Drug utilization reviews,
b. Inventory audits,
c. Patient outcome monitoring,
d. Drug information, and
e. Education of pharmacy and other health professionals;
3. Duties and qualifications of professional and support staff;
4. Controlled substances;
5. Drug product procurement;
6. Drug compounding, dispensing, and storage;
7. Patient profiles;
8. Quality management procedures for:
a. Adverse drug reactions,
b. Drug recalls,
c. Expired and beyond-use-date drugs,
d. Medication or dispensing errors, and
e. Education of professional and support staff;
9. Recordkeeping;
10. Sanitation;
11. Security;
12. Drug delivery requirements for:
a. Transportation,
b. Security,
c. Temperature and other environmental controls,
d. Emergency provisions, and
13. Patient education.

NOTICE OF PROPOSED RULEMAKING

TITLE 17. TRANSPORTATION

CHAPTER 9. DEPARTMENT OF ADMINISTRATION
SCHOOL BUSES

PREAMBLE

1. **Sections Affected**   **Rulemaking Action**

Sections Affected	Rulemaking Action
R17-9-101	Amend
R17-9-102	Amend
R17-9-103	Amend
R17-9-104	Amend
R17-9-109	Amend
R17-9-112	New Section
Exhibit A	Repeal

2. **The specific authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):**

Authorizing statute: A.R.S. §§ 28-900 and 28-3228

Implementing statute: A.R.S. §§ 28-900 and 28-3228

3. **List of all previous notices appearing in the register addressing the proposed rule:**

Notice of Docket Opening: 10 A.A.R.1629, April 23, 2004

4. **The name and address of agency personnel with whom persons may communicate regarding the rulemaking:**

Name: Jeanne Hann

Address: 100 N. 15th Ave., Ste. 402
                 Phoenix, AZ 85007

Telephone: (602) 542-2006

Fax: (602) 542-1486

      Email: jhann@ad.state.az.us

5.   **An explanation of the rule, including the agency's reasons for initiating the rule:**

At the request of members of the public, R17-9-104 is being amended to provide that a passenger may carry and consume while being transported on a school bus a dangerous or narcotic drug if certain specific criteria are met.

R17-9-103, regarding classroom and behind-the-wheel instructors, is being amended to be consistent with statute. The Department will no longer certify individuals as instructors. Rather, it will determine whether they are qualified to act as instructors and school bus drivers and applicants may obtain and maintain certification only if they receive training from qualified instructors. As a result of this change, R17-9-109, dealing with time-frames for certification, is also amended.

R17-9-102 is amended to require that additional records be maintained so the Department can determine whether applicants actually receive the required number of hours of classroom and behind-the-wheel training and whether school bus drivers receive the required number of hours of refresher training.

Federal materials dealing with drug and alcohol testing of a school bus driver, which are incorporated by reference, are updated. R17-9-102 is amended to clarify that a nine-panel test for use of controlled substances, which is not required by federal law, must be performed only annually using a procedure that is generally accepted in the scientific community to be accurate and reliable. The physical examination form used to assess the health qualification of an applicant or school bus driver is changed from that issued by the federal government to that issued by the Arizona Department of Transportation.

A new Section, R17-9-112, is added specifying that the Department's enforcement authority permits it to conduct audits of the records required to be maintained under this Chapter.

Other minor changes include clarifying that the results of a negative drug test must be submitted within 12 months of a previous test and the behind-the-wheel training and driving test results in a pass or fail rather than a numerical score.

6.   **A reference to any study relevant to the rule that the agency reviewed and either proposes to rely on or not rely on in its evaluation of or justification for the rules where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:**

None

7.   **A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:**

Not applicable

8.   **The preliminary summary of the economic, small business, and consumer impact:**

The rule changes will have minimal economic impact unless a school district decides to permit a passenger to carry and consume while being transported on a school bus a dangerous or narcotic drug. If a school district voluntarily decides to do this, it will incur the cost of meeting the criteria established in the rule, which can be substantial. This includes the cost of hiring and training a qualified person to travel on the school bus with an affected passenger, establishing written policies and procedures regarding the administration of a dangerous or narcotic drug by a trained district employee to a passenger, ensuring that prior authorization is obtained from the affected passenger's parent or legal guardian, and maintaining records.

Clarification of the requirements regarding testing for use of controlled substances will reduce costs for employers. The annual test of all school bus drivers, which is not required by federal law, may be performed using a procedure generally recognized in the scientific community to be reliable and accurate. This procedure is less expensive to use than the one required under federal law. The procedure required under federal law must still be used when conducting tests required under federal law.

The additional records that must be maintained under R17-9-102 will minimally increase costs for employers. This cost is offset by an increase in passenger safety resulting from the Department's ability to determine whether an applicant obtained the required number of hours of classroom and behind-the-wheel training before being certified.

No longer having to track compliance with a time-frame rule regarding qualification of classroom and behind-the-wheel instructors will minimally reduce costs for the Department and make more time available to supervise training and certification of school bus drivers.

9.   **The name and address of agency personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:**

Name: Jeanne Hann

Address: 100 N. 15th Ave., Ste. 402
                    Phoenix, AZ 85007

Telephone: (602) 542-2006

Fax: (602) 542-1486

E-mail: jhann@ad.state.az.us

10. The time, place, and nature of the proceedings for the adoption, amendment, or repeal of the rule or, if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rule:

An oral proceeding will be held as follows:

Date: Tuesday, June 22, 2004

Time: 9:00 a.m.

Location: Peace Officers Standards and Training Board
2643 E. University
Phoenix, AZ

Date: Thursday, June 24, 2004

Time: 9:30 a.m.

Location: Little America
2515 E. Butler Ave.
Flagstaff, AZ

Written comments may be submitted to the person listed in item 4 until 5 p.m. on Friday, June 25, 2004.

11. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

None

12. Incorporations by reference and their location in the rules:

U.S. Department of Transportation, Federal Highway Administration, 49 CFR 382, October 2003, incorporated at R17-9-101 ("Controlled substances and alcohol testing").

U.S. Department of Transportation, Federal Highway Administration, 49 CFR 40, October 2003, incorporated at R17-9-101 ("Controlled substances and alcohol testing").

13. The full text of the rule follows:

TITLE 17. TRANSPORTATION

CHAPTER 9. DEPARTMENT OF ADMINISTRATION
SCHOOL BUSES

ARTICLE 1. SCHOOL BUS MINIMUM STANDARDS

Section
R17-9-101. Definitions
R17-9-102. Certification of School Bus Drivers
R17-9-103. ~~Certification~~ Qualification of Classroom and Behind-the-wheel Instructors
R17-9-104. Minimum Standards for School Bus Operation
R17-9-109. Time-frames for Making Certification Determinations
R17-9-112. Enforcement Audits
Exhibit A. ~~Proof of Completion of Behind-the-wheel Training and Driving Test~~ Repealed

ARTICLE 1. SCHOOL BUS MINIMUM STANDARDS

R17-9-101. Definitions
In this Chapter, unless otherwise specified:
"Accident" means any unexpected occurrence involving a moving or non-moving school bus that results in any bodily injury or fatality to a passenger or non-passenger, damage to personal or real property outside the school bus, or damage to the school bus that affects the integrity of the school bus or results in a major defect as described in A.A.C. R17-9-108(B).
"Alternately flashing signal lamps" means a system of red or red and amber lamps that are mounted horizontally to both the front and rear of the school bus body and used to inform the public that the school bus is preparing to stop or has stopped to load or unload passengers. Alternately flashing signal lamps can be either a 4-lamp system as described in A.A.C. R17-9-107(15)(c)(i) or an 8-lamp system as described in A.A.C. R17-9-107(15)(c)(ii).
"Alteration" means any addition, modification, or removal of any equipment or component after a school bus is inspected by the Department, which may affect the operations of the school bus; compliance with the statutes or rules applicable to

school buses; or the health, safety, or welfare of any individual.

"Applicant" means an individual who submits an application to the Department to obtain a certificate to operate a school bus ~~or to teach classroom or behind-the-wheel training~~.

"ASE" means National Institute of Automotive Service Excellence.

"Auxiliary fan" means a device mounted inside the school bus body used to supplement the heating, defrosting, or air-conditioning systems by circulating air in the school bus.

"Behind-the-wheel instructor" means an individual ~~certified by the Department~~ qualified under A.A.C. R17-9-103 to provide behind-the-wheel training to applicants.

"Behind-the-wheel training" means the complete physical control of a school bus by an applicant while accompanied by and under direct observation of a behind-the-wheel instructor.

"Belt cutter" means a hand-held instrument containing a blade used to sever a seat belt or a wheelchair-securement device.

"Certificate" means a written authorization issued by the Department to operate a school bus ~~or to act as a classroom or behind-the-wheel instructor~~ in Arizona.

"Chassis" means the part of a school bus that consists of all base components, including the frame, front and rear suspension, exhaust system, brakes, engine, engine hood or cover, transmission, front and rear axles, front fenders, drive train and shaft, fuel system, engine air intake and filter, clutch and accelerator pedals, steering wheel, tires, heating and cooling system, battery, and controls and instruments to operate the school bus.

"Chassis cowl" means those parts of a Type C school bus that are located in front of the cowl and attached before a school bus manufacturer adds the school bus body.

"Citation" has the same meaning as at A.R.S. § 28- 1872.

"Classroom instructor" means an individual ~~certified by the Department~~ qualified under A.A.C. R17-9-103 to provide classroom training to:

Applicants to operate a school bus,

~~Applicants~~ Individuals becoming qualified to teach classroom training,

~~Applicants~~ Individuals becoming qualified to teach techniques of behind-the-wheel training, or

School bus drivers ~~for~~ taking refresher training.

"Classroom training" means the courses required by the Department of an applicant before the applicant is certified.

"Commercial driver license" has the same meaning as at A.R.S. § 28- 3001.

"Controlled substances and alcohol testing" means a determination of an applicant's or school bus driver's use of marijuana, cocaine, phencyclidine, opiates, amphetamines, and alcohol prescribed by 49 CFR 382, October ~~1999~~ 2003 (no later amendments or editions), and conducted in accordance with the procedures at 49 CFR 40, October ~~1999~~ 2003 (no later amendments or editions), both published by the U.S. Government Printing Office, Superintendent of Documents, Mail Stop: SSOP, Washington, D.C. 20402-9328, incorporated by reference, and on file with the Department and the Office of the Secretary of State, and a determination of ~~an applicant's or~~ a school bus driver's use of barbiturates, benzodiazepines, methadone, and propoxyphene as required by these rules and conducted in accordance with ~~the procedures at 49 CFR 40~~ a procedure that is generally accepted in the scientific community to be accurate and reliable.

"Cowl" means the portion of the chassis in a Type C school bus that separates the school bus engine from the school bus driver's compartment.

"Cutaway van" means a chassis to which a completed driver's compartment is attached before a school bus manufacturer adds a school bus body.

"dB(A)" means decibels A scale, a term denoting that noise level has been adjusted to duplicate human hearing.

"Department" means the Arizona Department of Public Safety.

"Driver's compartment" means the part of a school bus body that is separated from the passenger compartment by a barrier and contains the controls and instruments for the operation of the school bus.

"Emergency-brake system" means mechanical components used to slow or stop a school bus after a failure of the service-brake system.

"Emergency exit" means an opening in a school bus, including a door, push-out window, or roof hatch, used to unload passengers in the event of an occurrence that requires immediate evacuation of the school bus.

"Employer" means a private business or school district that hires applicants and certified school bus drivers to operate school buses.

"Forward-control chassis" means a chassis to which controls used to operate a school bus, including the brake, clutch and accelerator pedals, emergency brake, and steering wheel, are mounted as far forward on the chassis as possible and are attached before a school bus manufacturer adds a school bus body.

"Frame" means the structural foundation upon which a school bus chassis is constructed.

"Frontage road" means a street that parallels an interstate highway and furnishes access to streets and property that would otherwise be unreachable from the interstate highway.

"Gross vehicle weight rating" means the value specified by the manufacturer as the maximum total loaded weight of a school bus, calculated in accordance with A.A.C. R17-9-106(26).

"Health care professional" means:

A physician licensed to practice medicine under A.R.S. § 32-1401 et seq., osteopathy under A.R.S. § 32- 1800 et seq., or chiropractic under A.R.S. § 32- 900 et seq.;

A physician licensed to practice medicine, osteopathy, or chiropractic in a state contiguous to Arizona;

A physician employed by the United States government and licensed by a state or territory of the United States;

A physician assistant licensed under A.R.S. § 32-2501 et seq.; or

A registered nurse practitioner licensed under A.R.S. § 32- 1601 et seq.

"Highway" has the same meaning as at A.R.S. § 28-101~~(48)~~.

"Identification" means the signs, lettering, or numbers placed on the interior or exterior of a school bus body, including the glass areas, but does not include the lettering, numbers, or logos of a manufacturer or distributor of the manufacturer's product.

"Ignition power-deactivation switch" means a device that when set causes the engine of a motor vehicle to stop operating if the transmission is placed into gear or the parking-brake system is released.

"Interstate highway" means the designation given by the federal government to the system of highways connecting two or more states of the United States.

"Lamp" means a device that is covered by a lens and used to produce artificial light.

"Major defect" means a condition that exists to the interior or exterior of a school bus that causes the Department or owner to place the school bus out of service while the defect is being corrected.

"Manufacturer" means an entity engaged in the manufacturing or assembling of a school bus chassis, school bus body, or school bus chassis and body.

"Medical practitioner" has the same meaning as at A.R.S. § 32-1901.

"Minor defect" means a condition that exists to the interior or exterior of a school bus that is not a major defect and allows the school bus to remain in operation while the defect is being corrected.

"Off-duty" means the time a school bus driver is not on-duty.

"On-duty" means the period between the time a school bus driver begins to work for the employer or is required to be ready to work for the employer until the time the school bus driver is relieved from work and all responsibility for performing work for the employer. The time on-duty is used only to determine when a school bus driver must be provided time off-duty. Time on-duty may be compensated by the employer or an entity other than the employer or may be uncompensated. On-duty includes:

All time at an employer's place of business, waiting to be dispatched.

All time performing an operations check of a school bus in accordance with A.A.C. R17-9-108, or servicing or conditioning a school bus;

All time driving a school bus, including loading or unloading the school bus, and remaining in readiness to drive a school bus;

All time, at the direction of the employer, travelling but not driving a school bus or assuming any other responsibility to the employer. If the school bus driver is afforded at least eight consecutive hours off-duty upon arrival at the school bus driver's destination after travelling but not driving a school bus or assuming any other responsibility to the employer, the school bus driver shall be considered off-duty for the entire period travelling but not driving the school bus or assuming any other responsibility to the employer;

All time repairing, obtaining assistance, or remaining in attendance upon a disabled school bus;

All time preparing required reports and records;

All time providing a breath or urine sample, including travel time to and from the collection site, to comply with the testing requirements of this Chapter;

All time performing any other work for the employer; and

All time performing any compensated work for any entity other than the employer.

"Out of service" means a school bus cannot be used to transport passengers.

"Owner" means the public or governmental agency or institution or private company in whose name a school bus is titled.

"Parking-brake system" means mechanical components used to prevent the movement of a school bus while loading or unloading a passenger or when the school bus is parked.

"Passenger" means an individual who rides in a school bus but does not participate in the operation of the school bus.

"Passenger compartment" means that part of the school bus body that is separated from the school bus driver's compartment by a barrier and holds the passengers to be transported.

"Physical examination" means an evaluation of an applicant's or school bus driver's medical status performed by a health care professional according to this Article.

"Physical examination form" means the ~~form at 49 CFR 391.43, published October 1999 (and no future amendments or editions) by the U.S. Government Printing Office, Superintendent of Documents, Mail Stop: SSOP, Washington, D.C. 20402-9328, incorporated by reference and on file with the Department and the Office of the Secretary of State~~ Arizona Department of Transportation, Motor Vehicle Division, Medical Examination Report, which is used to record the results of a physical examination and may be obtained from the Department or Arizona Department of Transportation, Motor Vehicle Division.

"Push-out window" means safety glass enclosed in a frame on a school bus that moves to the outside of the school bus when force is applied to the window from inside the school bus.

"Refresher training" means the courses required by the Department of each school bus driver to maintain certification as a school bus driver in Arizona.

"Restraining barrier" means a structure located in front of any school bus seat that restricts the forward motion of a passenger.

"Rub rail" means a horizontal steel bar attached to the outside of a school bus body used to reinforce the sides of the school bus.

"Safety glass" has the same meaning as at A.R.S. § 28-959(F).

"School" means a school as defined by A.R.S. § 15-101(19), accommodation school as defined by A.R.S. § 15-101(1), charter school as defined by A.R.S. § 15-101(3), or private school as defined by A.R.S. § 15-101(18).

"School bus" has the same meaning as at A.R.S. § 28-101(43).

"School bus body" means a structure assembled upon a chassis designed to carry a school bus driver and passengers.

"School bus driver" means an individual who is certified by the Department as meeting the requirements at A.R.S. § 28-3228 and A.A.C. R17-9-102 to operate a school bus in Arizona.

"School district" has the same meaning as at A.R.S. § 15-101(20).

"Service-brake system" means mechanical components used to slow or stop a school bus.

"Service door" means a metal structure used to close the opening of a service entrance.

"Service entrance" means an opening in a school bus used to load or unload passengers.

"Special needs school bus" means a school bus that is designed to transport disabled passengers, some of whom may use a wheelchair, and is constructed with a service entrance and a special-service entrance.

"Special-service entrance" means an opening in a school bus that accommodates a wheelchair lift for the loading or unloading of a passenger who uses a wheelchair.

"Special-service entrance door" means a metal structure used to close the opening of a special-service entrance.

"Street" has the same meaning as at A.R.S. § 28-101(48).

"Traffic control signal" has the same meaning as at A.R.S. § 28-601(27).

"Training" means the instruction, courses, classes, or workshops provided by the Department or the employer that are required to obtain or maintain certification as a school bus driver, or qualification as a classroom instructor, or behind-the-wheel instructor in Arizona.

"Transport" or "transporting" means a school bus driver sets a school bus in motion to carry passengers or objects authorized by the school district to be carried in a school bus.

"Type A school bus" means a van converted to a school bus body or a school bus body that is constructed upon a cutaway van, has a left side door for the school bus driver, and is designed to carry more than 10 individuals. Part of the engine is beneath the windshield and beside the driver's seat and the service door is located behind the front wheels. A Type A school bus, which is sometimes called a Type A-II school bus, has a gross vehicle weight rating of 10,000 pounds or less.

"Type B school bus" means a school bus body that is constructed upon a cutaway van or a forward-control chassis, has a gross vehicle weight rating of more than 10,000 pounds, and is designed to carry more than 10 individuals. Part of the engine is beneath the windshield and beside the driver's seat and the service door is located behind the front wheels. A Type B school bus is sometimes called a Type A-I school bus.

"Type C school bus" means a school bus body that is installed either upon a chassis cowl with the engine located beneath or in front of the windshield and in front of the cowl or upon a forward-control chassis with part of the engine beneath the windshield and beside the driver's seat. The service door is located behind the front wheels. The school bus has a gross vehicle weight rating of more than 10,000 pounds and is designed to carry more than 10 individuals.

"Type D school bus" means a school bus body that is installed upon a chassis with the engine mounted in front of the front axle, between the front and rear axles, or behind the rear axle. The school bus driver's seat and the service door are located in front of the front wheels. The school bus has a gross vehicle weight rating of more than 10,000 pounds and is designed to carry more than 10 individuals.

"Van" means a covered or enclosed truck.

"Wheelchair" means a mobility aid consisting of a frame, seat, and three or four wheels, which is used to support and carry a disabled passenger.

"Wheelchair lift" means an electric hydraulic mechanism and platform in a school bus used to raise and lower a passenger in a wheelchair.

"Wheelchair-lift platform" means a horizontal surface upon which a wheelchair sits while being raised or lowered.

"Wheelchair-passenger restraint" means a combination of a pelvic and an upper torso restraint, including buckles and fasteners, designed to secure a passenger in a wheelchair within a school bus.

"Wheelchair-passenger restraint anchorage" means equipment for fastening wheelchair-passenger restraints to the interior of a school bus.

"Wheelchair-securement anchorage" means equipment for fastening a wheelchair-securement device to a school bus floor.

"Wheelchair-securement device" means a strap or webbing, including buckles and fasteners, used for fastening a wheelchair to a wheelchair-securement anchorage.

"Wheelchair-securement system" means components used to fasten a wheelchair to the interior of a school bus, including a wheelchair-securement anchorage and a wheelchair-securement device.

R17-9-102.   Certification of School Bus Drivers
A. Certification requirements. An individual shall not operate a school bus in Arizona without being certified by the Department. An applicant for certification shall:
1.   Be a minimum of 18 years of age;
2.   Submit all of the following to the Department through the employer:
     a.   A completed fingerprint card and fingerprint card processing fee;
     b.   An application signed and dated by the applicant that states the applicant's:
          i.   Name, home address, and home phone number;
          ii.   Any alias ever used by the applicant;
          iii. Social security number;
          iv.   Date of birth;
          v.   Arizona commercial driver license number;
          vi.   Date of previous application for certification, if any;
          vii. Intended employer's name;
          viii. Convictions for a felony or misdemeanor, if any, in this state or any other state; and
          ix.   Total points accumulated against the applicant's driving record during the two years immediately preceding the date of application using the point system contained in A.A.C. ~~R17-4-506~~ R17-4-404;
     c.   Completed physical examination form and results of controlled substances testing; and
     d.   A verification made under penalty of perjury that all submitted information is true and complete;
3.   Possess a current Arizona commercial driver license under A.R.S. § 28- 3101;
4.   Possess ~~a current~~ any Arizona ~~passenger~~ driver license endorsement required under A.R.S. § 28- 3103~~(A)(4)~~;
5.   Meet the driving record requirements listed in this Article; and
6.   Complete the training requirements listed in this Article.
B. Physical examination
1.   An applicant or school bus driver shall submit to a physical examination that is conducted by a health care professional in accordance with the physical examination form. An applicant or school bus driver is qualified to ~~operate a school bus~~ be certified as a school bus driver only if the health care professional conducts the physical examination in accordance with the physical examination form and concludes that the applicant or school bus driver has no condition that would interfere with the applicant's or school bus driver's ability to: ~~operate~~
     a.   Operate a school bus safely~~.~~ .
     b.   Evacuate a school bus during an emergency or during a drill required under R17-9-104(D), and
     c.   Perform the operations checks required under R17-9-108(D).
2.   An applicant or school bus driver who is insulin dependent shall obtain the waiver described in A.A.C. ~~R17-4-435.06~~ R17-5-208.
3.   An applicant shall submit the completed physical examination form and, if applicable, a copy of the waiver required under subsection (B)(2), to the Department through the employer.
4.   The initial physical examination of an applicant, conducted in accordance with the physical examination form, expires 24 months from the date of the physical examination unless a shorter time is specified by the health care professional who administers the physical examination. A school bus driver shall submit to a physical examination before the expiration date of the previous physical examination and send the completed physical examination form to the Department through the employer before the end of the month in which the previous physical examination expires.
5.   If a health care professional determines that further testing of an applicant or school bus driver is needed by an ophthalmologist or optometrist, the health care professional shall refer the applicant or school bus driver to:
     a.   An ophthalmologist licensed under A.R.S. § 32-1401 et seq,
     b.   An optometrist licensed under A.R.S. § 32-1701 et seq,
     c.   An ophthalmologist licensed to practice ophthalmology or optometrist licensed to practice optometry by a state contiguous to Arizona, or
     d.   An ophthalmologist licensed to practice ophthalmology or optometrist licensed to practice optometry by any state or territory of the United States and employed by the United States government.
6.   In addition to the physical examinations required by this Article, the Department or the employer may require a physical examination of ~~a~~ an applicant or school bus driver for an impairment that would affect the ability to ~~operate a school bus safely~~ perform the activities listed in subsection (B)(1). The Department or employer shall base its decision to require an additional physical examination upon consideration of the appearance or actions of the applicant or school bus driver or of medical information received by the Department regarding the applicant or school bus driver. The applicant or school bus driver shall submit results of a physical examination conducted under this subsection to

the Department through the employer within 30 days of the date of the physical examination.

C. Controlled substances and alcohol testing

1. An applicant or school bus driver shall submit to alcohol and controlled substances testing as required by A.R.S. § 28-3228(C)(2) and as prescribed by this Article and 49 CFR 382 (~~1999~~ 2003), which is conducted in accordance with the procedures at 49 CFR 40 (~~1999~~ 2003), except for the changes in 49 CFR 40 and 49 CFR 382 listed in subsections (C)(1)(a) through (C)(1)(i).

    a. 49 CFR 40.3

       i. "Employee," ~~"individual," or "individual to be tested," as used in 49 CFR 40,~~ means an applicant or a school bus driver as defined at A.A.C. R17-9-101.

       ii. "Employer" has the same meaning as at A.A.C. R17-9-101.

    b. 49 CFR 382.107

       i. "Commercial motor vehicle" has the same meaning as at A.R.S. § 28-~~3001.3~~ 3001(3).

       ii. "Driver" means a school bus driver as defined at A.A.C. R17-9-101.

       iii. "Employer" has the same meaning as at A.A.C. R17-9-101.

       iv. "Performing a safety-sensitive function" means any time during which a school bus driver is on-duty except when the school bus driver is being compensated by an entity other than the employer.

       v. "Safety-sensitive function" means any activity for which a school bus driver is on-duty except when the school bus driver is performing an activity for and being compensated by an entity other than the employer.

    c. 49 CFR 382.207. In both sentences, the word "four" is changed to "eight."

    ~~d. 49 CFR 382.301(a) is changed to read: Prior to the first time a driver performs a safety-sensitive function for an employer, the driver shall undergo testing for controlled substances. An employer shall not allow a driver to perform a safety-sensitive function unless the driver has received a controlled substances test result from the medical review officer indicating a verified negative test result.~~

    ~~e~~d. 49 CFR 382.301(b), (c), and (d): Delete these subsections.

    ~~f~~e. 49 CFR 382.303(a) and (b): ~~Delete~~ Change the word "occurrence" to "accident," as defined in R17-9-101, and delete the words "operating on a public road in commerce."

    ~~g~~f. 49 CFR 382.303(a)(1) and (b)(1): Delete the words ", if the accident involved the loss of human life"

    ~~h~~g. 49 CFR 382.303(a)(2) and (b)(2): Delete the words ", if the accident involved:"

    ~~i~~h. 49 CFR 382.303(a)(2)(i) and (ii) and ~~(a)(3)~~ (b)(2)(i) and (ii): Delete these subsections.

    i. 49 CFR 382.303 (c): In the table, in the column headed "Test must be performed by employer," change "No" to "Yes."

  ~~2. An employer shall test an applicant or school bus driver for use of barbiturates, benzodiazepines, methadone, and propoxyphene using the procedure in 49 CFR 40. As required by 49 CFR 40.21, when testing for barbiturates, benzodiazepines, methadone, and propoxyphene, the employer shall use a urine sample that is collected separate from the urine sample used to test for marijuana, cocaine, opiates, amphetamines, and phencyclidine. To provide two separate urine samples, a donor shall urinate into two collection containers.~~

  ~~3. The employer shall ensure that each school bus driver is tested for use of controlled substances at least once every 12 months and when requested to do so by the Department. Controlled substances testing conducted after the initial or screening test may be conducted on a random basis.~~

  2. In addition to the testing required under subsection (C)(1), a school bus driver shall submit annually to testing for the use of marijuana, cocaine, opiates, amphetamines, phencyclidine, benzodiazepines, barbiturates, methadone, and propoxyphene by a procedure that is generally accepted in the scientific community to be accurate and reliable.

  3. The employer shall ensure that each school bus driver is tested for use of controlled substances and alcohol when required to do so by these rules or when requested by the Department.

  4. The employer shall submit any and all negative results of controlled substances and alcohol testing to the Department within ~~90~~ 30 days of the date of testing or within 12 months of the school bus driver's previous test, whichever is sooner, by providing the Department a copy of the report submitted to the employer by the entity that conducted the testing.

  5. The employer shall immediately notify the Department by telephone of any and all positive results of controlled substances and alcohol testing and shall submit to the Department within five days a copy of the report submitted to the employer by the entity that conducted the testing.

D. Driving record.

  1. During the 24 months before the date of application or during any 24-month period while certified as a school bus driver, an applicant or school bus driver shall not accumulate eight or more points against a driving record in this state using the point system contained in A.A.C. ~~R17-4-506~~ R17-4-404.

  2. During the 10 years before the date of application, an applicant shall not have repeatedly received citations for violation of traffic law.

E. Training requirements of a school bus driver

1. Before being certified by the Department as a school bus driver, an applicant shall complete a minimum of 14 hours of classroom training in the following:
    a. State and federal traffic laws,
    b. Behind-the-wheel driving operations,
    c. School bus driver's responsibilities to passengers and school,
    d. Inspections and operations checks,
    e. Records and reports,
    f. Special needs transportation, and
    g. Accidents and emergencies.
2. ~~Classroom~~ An employer shall ensure that classroom training ~~shall be~~ is taught by a classroom instructor who is qualified under R17-9-103.
3. At least seven days before classroom training, the classroom instructor shall notify the Department in writing of the date, time, and location of classroom training. The classroom instructor shall notify the Department by any means available at least 24 hours before the date, time, or location of classroom training is changed or canceled.
4. After completion of classroom training, the classroom instructor shall administer to the applicant a written examination standardized by the Department.
    a. The written examination shall consist of a combination of 50 true or false, multiple choice, and fill-in-the-blank questions. The examination questions shall cover the topics listed in subsection (E)(1).
    b. Each question has a value of ~~2~~ two points. To pass the examination an applicant shall receive a score that equals or exceeds 80% of the total possible score.
    c. If an applicant is unable to read or speak English, the employer shall arrange to have the examination administered orally to the applicant in the language with which the applicant is most familiar.
    d. If an applicant does not pass the examination on the first attempt, the applicant may take an examination two more times within 12 months of the first attempt. A different examination shall be administered to an applicant who is taking an examination for the second or third time. The period between examinations shall be a minimum of 24 hours. If the applicant fails the examination on the third attempt, the applicant shall be considered further only if the applicant complies again with the requirements in this Section.
5. The classroom instructor shall submit the following information in a written report to the Department and the employer within seven days from the date of the conclusion of a classroom training course:
    a. Instructor's name,
    b. Instructor's ~~certification~~ identification number,
    c. Date of training,
    d. Location of training,
    e. Number of hours of training taught by the classroom instructor,
    ~~e.~~f. Each applicant's name, and
    ~~f.~~g. Each applicant's examination score.
6. In addition to the report required under subsection (E)(5), the classroom instructor shall maintain and submit to the employer within seven days from the conclusion of a classroom training course, a classroom-training course log that includes:
    a. Instructor's name,
    b. Instructor's identification number,
    c. Date of the training course,
    d. Name of each applicant attending the training course,
    e. Subject matter taught in each hour, and
    f. Which hours of training were attended by each applicant.
~~6.~~7. In addition to the classroom training, an applicant shall complete behind-the-wheel training consisting of a minimum of 20 hours operating a school bus in Arizona.
    a. An employer shall ensure that behind-the-wheel training is taught by a behind-the-wheel instructor who is qualified under R17-9-103.
    ~~a~~b. During ~~Behind~~ behind-the-wheel training, ~~shall be taught by~~ a behind-the-wheel instructor ~~who is~~ shall be present and observing the applicant while the applicant is operating the school bus.
    ~~b~~c. ~~Only~~ The employer shall ensure that no one except the applicant, behind-the-wheel instructor, employer, and Department employees ~~shall be~~ are aboard the school bus while the applicant actually operates the school bus.
    d. The behind-the-wheel instructor shall maintain and submit to the employer within seven days from the conclusion of the applicant's behind-the-wheel training, a behind-the-wheel training log that includes:
        i. Instructor's name,
        ii. Instructor's identification number,
        iii. Applicant's name,
        iv. Date of each behind-the-wheel training session, and

v. Actual number of hours at each training session that the applicant operates a school bus.

ee. At the conclusion of behind-the-wheel training, the behind-the-wheel instructor shall use a copy of the Proof of Completion of Behind-the-wheel Training and Driving Test form to administer the driving test in Exhibit A to the applicant the driving test described on the form. The driving test shall measure the applicant's ability to operate a school bus safely and in a manner consistent with state law. The behind-the-wheel instructor shall either pass or fail the applicant and submit the results in writing completed form to the Department and the employer within seven days of the driving test.

F. First aid and cardiopulmonary resuscitation

1. Before being certified, an applicant shall complete classroom instruction in cardiopulmonary resuscitation and basic first aid. The instruction in cardiopulmonary resuscitation shall include performing cardiopulmonary resuscitation on adults, children, and infants.

2. The instruction shall be conducted by an individual currently certified as an instructor in first aid and cardiopulmonary resuscitation by a program approved by a nationally recognized organization such as the American Heart Association, American Red Cross, National Safety Council, or Arizona Bureau of Mines; by an emergency medical technician licensed by Arizona; or by an agency of the U.S. government.

3. An applicant shall submit to the Department, through the employer, a copy of the front and back of the first-aid card and cardiopulmonary resuscitation card issued to the applicant or other written documentation as proof of completion of the first-aid and cardiopulmonary resuscitation training.

4. A school bus driver shall renew first-aid and cardiopulmonary resuscitation instruction before expiration of the current training. Renewal instruction shall be provided by an individual described in subsection (F)(2). The school bus driver shall submit to the Department, through the employer, a copy of the front and back of the first-aid card and cardiopulmonary resuscitation card or other written documentation as proof of renewal of training.

G. The Department shall process an application for certification as a school bus driver under R17-9-109.

H. Refresher training

1. A school bus driver shall have refresher training no later than 24 months following completion of the training required by subsection (E). Refresher training shall consist of a minimum of 6 1/2 hours of classroom training in the topics listed in subsection (E)(1).

2. After completing the first refresher training, the school bus driver shall complete a minimum of 6 1/2 hours of classroom training in the topics listed in subsection (E)(1) every 24 months following the last refresher training.

3. An employer shall ensure that refresher training is taught by a classroom instructor who is qualified under R17-9-103.

3.4. A classroom instructor shall teach refresher training and shall submit the following information in a written report to the Department and the employer within 15 seven days from completion of the refresher training:
   a. Instructor's name,
   b. Instructor's certification identification number,
   c. Date of training,
   d. Location of training,
   e. Number of hours of training taught by the classroom instructor,
   e.f. Each school bus driver's name, and
   f.g. Each school bus driver's certification number.

5. In addition to the report required under subsection (H)(3), the classroom instructor shall maintain and submit to the employer within seven days from the conclusion of a refresher training course, a refresher-training course log that includes:
   a. Instructor's name,
   b. Instructor's identification number,
   c. Date of the refresher training course,
   d. Name and certification number of each school bus driver attending the refresher training course,
   e. Subject matter taught in each hour, and
   f. Which hours of refresher training were attended by each school bus driver.

I. Records

1. The employer shall maintain qualification and training records of an applicant who is certified and of a school bus driver who terminates employment, and qualification records of an applicant who is denied certification, for 24 months from the date of certification, termination of employment, or denial of certification.

2. The employer shall maintain refresher training records of a school bus driver for 24 months from the date of completion of each refresher training course.

3. The employer shall maintain records of controlled substances testing of an applicant or a school bus driver and alcohol use testing of a school bus driver as required under 49 CFR 382.401.

3.4. The employer shall transfer qualification and training the records of a school bus driver to a subsequent employer upon written request by the subsequent employer or school bus driver.

4.5. Qualification records include:

      a.   Application,

      b.   Driving record, and

      c.   Copy of physical examination form ~~and controlled substance test results~~.

   ~~5.~~6. Training records include:

      a.   ~~An applicant's initial training date and the name and certification number of the instructor~~ <u>A copy of the classroom-training course log required under subsection (E)(6) that shows the applicant's attendance,</u>

      b.   ~~A school bus driver's refresher training date and the name and certification of the classroom instructor~~ <u>A copy of the refresher-training course log required under subsection (H)(5) that shows the school bus driver's attendance,</u>

      c.   ~~Classroom and behind the wheel~~ <u>The classroom</u> training examination ~~scores~~ <u>score,</u>

      <u>d.   The applicant's behind-the-wheel training log,</u>

      <u>e.   The Proof of Completion of Behind-the-wheel Training and Driving Test form,</u>

      ~~d~~<u>f</u>.   A copy of the first-aid card and cardiopulmonary resuscitation card or other written documentation of completion of first-aid and cardiopulmonary resuscitation training, and

      ~~e~~<u>g</u>.   A copy of the school bus driver certification card issued by the Department.

J.   Denial, cancellation, or suspension of certificate

   1.   Based on an assessment of the totality of the circumstances, the Department may deny a certificate to an applicant or may cancel or suspend a certificate of a school bus driver for:

      a.   Failing to meet or comply with the requirements of this Article;

      b.   Being convicted of or subject to an outstanding warrant for any felony;

      c.   Being convicted of or subject to an outstanding warrant for a misdemeanor reasonably related to the occupation of a school bus driver including:

         i.   Civil traffic violation (A.R.S. § 28-1591 et seq.);

         i.   Driving under the influence (A.R.S. § 28-1381 et seq.);

         iii. Any sexual offense (A.R.S. § 13-1401 et seq.);

         iv. Any abuse of a child (A.R.S. § 13-3623); or

         v.   Use, sale, or possession of a controlled substance (A.R.S. § 13-3401 et seq.).

      d.   Providing false, incomplete, or misleading information to the Department;

      e.   Under A.R.S. § 28-1381, driving a school bus while under the influence of intoxicating liquor or drugs; or

      f.   Under A.R.S. §§ 28-3301 through ~~28-3320~~ <u>28-3322</u>, having a commercial driver license canceled, suspended, revoked, or denied.

   2.   An applicant who is denied a certificate or a school bus driver whose certificate is canceled or suspended may request a hearing within 30 days from the date of receipt of the notice of the denial, cancellation, or suspension. The hearing shall be conducted according to the procedures contained in A.R.S. Title 41, Chapter 6, Article 10.

   3.   The Department shall inform an applicant who is denied a certificate or a school bus driver whose certificate is canceled or suspended of the amount of time that must elapse before the applicant or the school bus driver may reapply for certification. The Department shall include this information in the notice of denial, cancellation, or suspension and the notice of final order, if any, served on the applicant or school bus driver. In determining the amount of time that must elapse before reapplication, the Department shall consider:

      a.   The seriousness of the offense leading to denial, cancellation, or suspension;

      b.   The frequency with which the offense occurred; and

      c.   The amount of time required to correct the offense.

K.   If a school bus driver is terminated from or leaves employment, the employer shall provide written notice to the Department within 30 days of the termination or leaving. If a school bus driver transfers employment from one employer to a second employer, within 14 days of the transfer the second employer shall provide written notice to the Department of the:

   1.   School bus driver's name,

   2.   School bus driver's certification number,

   3.   Name of the transferring employer, and

   4.   Effective date of the transfer.

R17-9-103.   ~~Certification~~ <u>Qualification</u> **of Classroom and Behind-the-wheel Instructors**

A. ~~Before being certified~~ <u>To be qualified</u> as a classroom instructor, an ~~applicant~~ <u>individual</u> shall:

   1.   Submit to the Department ~~an application~~ <u>through the employer, a letter</u> signed and dated by the ~~applicant~~ <u>individual</u> , that states the ~~applicant's~~ <u>individual's</u>:

      a.   Name, home address, and home phone number;

      b.   Social security number;

      c.   Date of birth;

      d.   Current employer's name, address, and phone number; and

      e.   Dates of all previous ~~applications~~ <u>letters regarding qualification</u>;

   2.   Submit a letter to the Department from the current employer recommending that the ~~applicant~~ <u>individual</u> be consid-

ered as a classroom instructor; and
3. Pass a written examination standardized by the Department:
   a. The written examination shall consist of a combination of 50 true or false, multiple choice, and fill-in-the-blank questions. The examination questions shall cover the topics listed in R17-9-102 (E)(1).
   b. Each question has a value of ~~2~~ two points. To pass the examination, an ~~applicant~~ individual shall receive a score that equals or exceeds 90% of the total possible score.
   c. If an ~~applicant~~ individual taking the written examination is unable to read or speak English, the employer shall arrange to have the examination administered orally ~~to the applicant~~ in the language with which the ~~applicant~~ individual is most familiar.
   d. If an ~~applicant~~ individual does not pass the examination, the ~~applicant~~ individual may take a second examination that is different from the first examination.
   e. If ~~the applicant~~ an individual fails to pass the second examination, the ~~applicant~~ individual may receive further consideration by submitting ~~a new application and documents required by these rules~~ again the materials required by subsections (A)(1) and (A)(2) and taking the written examination required by this subsection.
   f. The ~~classroom instructor~~ employer shall submit each ~~applicant's~~ individual's examination score to the Department within seven days from the date of the examination.
B. ~~The Department shall process an application for certification as a classroom instructor under R17-9-109.~~
~~C.~~**B.** To ~~maintain certification by the Department~~ remain qualified as a classroom instructor, a classroom instructor shall teach a minimum of 12 hours of classroom or refresher training every 24 months from the date ~~of certification~~ the classroom instructor is first recognized by the Department as qualified. ~~The classroom instructor shall submit the following written documentation to the Department within 15 days of completion of a training program:~~
   ~~1. Name and certification number of classroom instructor,~~
   ~~2. Location of training provided,~~
   ~~3. Subject matter of training provided,~~
   ~~4. Date of training, and~~
   ~~5. Number of hours of training completed.~~
~~D.~~**C.** ~~Before being certified~~ To be qualified as a behind-the-wheel instructor, an ~~applicant~~ individual shall:
1. Be certified continuously as a school bus driver in Arizona for the 12 months immediately ~~preceding the application~~ before submitting the letter described in subsection (C)(2) and be employed as a certified school bus driver at the time of ~~application~~ qualification as a behind-the-wheel instructor;
2. Submit ~~an application~~ to the Department through the employer, a letter signed and dated by the ~~applicant~~ individual, that states the ~~applicant's~~ individual's:
   a. Name, home address, and home phone number;
   b. Social security number;
   c. Commercial driver license number;
   d. Current employer's name, address, and phone number; and
   e. Dates of all previous ~~applications~~ letters regarding qualification;
3. Submit a letter to the Department from the current employer recommending that the ~~applicant~~ individual be considered as a behind-the-wheel instructor; and
4. Pass a written examination standardized by the Department.
   a. The written examination shall consist of a combination of 50 true or false, multiple choice, and fill-in-the-blank questions. The examination questions shall cover the topics listed in R17-9-102(E)(1):
   b. Each question has a value of ~~2~~ two points. To pass the examination, an ~~applicant~~ individual shall receive a score that equals or exceeds 80% of the total possible score.
   c. If an ~~applicant~~ individual is unable to read or speak English, the employer shall arrange to have the examination administered orally ~~to the applicant~~ in the language with which the ~~applicant~~ individual is most familiar.
   d. If an ~~applicant~~ individual does not pass the examination, the ~~applicant~~ individual may take a second examination that is different from the first examination.
   e. If ~~the applicant~~ an individual fails to pass the second examination, the ~~applicant~~ individual may receive further consideration by submitting ~~a new application and documents required by these rules~~ again the materials required by subsections (C)(2) and (C)(3) and taking the written examination required by this subsection.
   f. The ~~classroom instructor~~ employer shall submit each ~~applicant's~~ individual's examination score to the Department within seven days from the date of the examination.
E. ~~The Department shall process an application for certification as a behind-the-wheel instructor under R17-9-109.~~
~~F.~~**D.** To ~~maintain certification by the Department~~ remain qualified as a behind-the-wheel instructor, a behind-the-wheel instructor shall maintain certification as a school bus driver in this state and teach a minimum of 12 hours of behind-the-wheel training every 24 months from the date ~~of certification~~ the behind-the-wheel instructor is first recognized by the Department as qualified.
~~G.~~**E.** Records

1. The employer shall maintain the following records for each classroom and behind-the-wheel instructor for 24 months from the date ~~of certification~~ the instructor is first recognized by the Department as qualified.
   a. ~~Application~~ Qualification letter submitted under subsection (A)(1) or (C)(2),
   ~~b. Driving record,~~
   ~~c. Letters~~ b. Letter of recommendation submitted under subsection (A)(2) or (C)(3), and
   ~~d.~~ c. Examination ~~scores~~ score.
2. The Department shall maintain the documents required ~~by subsection (C)~~ under R17-9-202(E)(5) and (H)(4) for 24 months.

~~H.~~F. ~~Denial, cancellation, or suspension of certificate of classroom or~~ The Department shall not recognize an individual as qualified to be a classroom or behind-the-wheel instructor if the individual:
   ~~1. Based on an assessment of the totality of the circumstances, the Department may deny a certificate to an applicant or may cancel or suspend a certificate of a behind-the-wheel instructor for:~~
   ~~a.~~ ~~Failing~~ 1. Fails to meet or comply with the requirements of this Article;
   ~~b.~~ ~~Being~~ 2. Is convicted of or subject to an outstanding warrant for a felony;
   ~~c.~~ ~~Being~~ 3. Is convicted of or subject to an outstanding warrant for a misdemeanor reasonably related to the occupation of a school bus driver, including:
   ~~i.~~a. Civil traffic violation (A.R.S. § 28-1591 et seq.);
   ~~ii.~~b. Driving under the influence (A.R.S. § 28-1381 et seq.);
   ~~iii.~~c. Any sexual offense (A.R.S. § 13-1401 et seq.);
   ~~iv.~~d. Any abuse of a child (A.R.S. § 13-3623); or
   ~~v.~~e. Use, sale, or possession of a controlled substance (A.R.S. § 13-3401 et seq.);
   ~~d.~~ ~~Providing~~ 4. Provides false, incomplete, or misleading information to the Department;
   ~~e.~~5. Under A.R.S. § 28-1381, ~~driving~~ drives a school bus while under the influence of intoxicating liquor or drugs; or
   ~~f.~~6. Under A.R.S. §§ 28-3301 through ~~28-3320~~ 28-3322, ~~having~~ has a commercial driver's license canceled, suspended, revoked, or denied.
   ~~2. The Department shall deny a certificate to an applicant or shall cancel or suspend a certificate of a classroom instructor for:~~
   ~~a. Failing to meet or comply with the requirements of this Article; or~~
   ~~b. Providing false, incomplete, or misleading information to the Department.~~
   ~~4. An applicant who is denied a certificate or an instructor whose certificate is canceled or suspended may request a hearing within 30 days from the date of receipt of the notice of the denial, cancellation, or suspension. The hearing shall be conducted according to the procedures contained in A.R.S. Title 41, Chapter 6, Article 10.~~
   ~~5. The Department shall inform an applicant who is denied a certificate or an instructor whose certificate is canceled or suspended of the amount of time that must elapse before the applicant or instructor may reapply for certification. The Department shall include this information in the notice of denial, cancellation, or suspension and the notice of final order, if any, served on the applicant or instructor. In determining the amount of time that must elapse before reapplication, the Department shall consider:~~
   ~~a. The seriousness of the offense leading to denial, cancellation, or suspension;~~
   ~~b. The frequency with which the offense occurred; and~~
   ~~c. The amount of time required to correct the offense.~~

~~I.~~G. If a classroom or behind-the-wheel instructor is terminated from or leaves employment, the employer shall provide written notice to the Department within 30 days of the termination or leaving. If a classroom or behind-the-wheel instructor transfers employment from one employer to a second employer, within seven days of the transfer the second employer shall provide written notice to the Department of the:
   1. Name of the classroom or behind-the-wheel instructor,
   2. ~~Certification~~ Identification number of the classroom or behind-the-wheel instructor,
   3. Name of the transferring employer, and
   4. Effective date of the transfer.

R17-9-104. Minimum Standards for School Bus Operation
A. A school bus driver shall perform operations checks of a school bus as required by A.A.C. R17-9-108.
B. Loading or unloading of passengers:
   1. As of February 16, 1996, an 8-lamp system as described in A.A.C. R17-9-107(15) shall be installed on a school bus before it is introduced into Arizona. When preparing to stop a school bus on a street or highway, the school bus driver shall activate the alternately flashing amber lamps of an 8-lamp system or the alternately flashing red lamps of a 4-lamp system for a minimum distance of 100 feet, in accordance with A.R.S. § 28-930(B). Whenever the school bus is stopped on a street or highway to load or unload passengers, the school bus driver shall deactivate the alternately flashing amber lamps and activate the alternately flashing red lamps of an 8-lamp system, and extend the stop arm and open the service door.

2. When a school bus driver stops the school bus to load or unload passengers, the school bus driver shall set the parking brake and place the transmission in neutral.
3. The distance between stops for the purpose of loading or unloading passengers shall be no less than 600 feet, unless the school determines that more frequent stops are necessary for safety. The school bus driver shall stop the school bus as near the right edge of the traveled portion of the street or highway as possible.
4. A school bus driver shall not load or unload passengers on the traffic side of the bus.
5. When a school bus driver loads or unloads passengers who must cross a street or highway at a location other than an intersection, the passengers shall cross at least 10 feet in front of the front bumper of the school bus. The school bus driver shall not permit passengers who must cross a street or highway to be unloaded from the school bus until all traffic to the front and rear of the school bus is stopped. The school bus driver shall not move the school bus until all passengers have crossed the street or highway.
6. In intersections that use lighted traffic control signals, a school bus driver shall load or unload passengers no closer than 100 feet of the traffic control signal so the passengers may cross with the traffic control signal, either before or after the school bus proceeds.
7. In intersections without lighted traffic control signals, a school bus driver shall load or unload passengers no closer than 50 feet of the intersection so the passengers may cross at the intersection, either before or after the school bus proceeds.
8. A school bus driver shall not stop a school bus on an interstate highway for the purpose of loading or unloading passengers, except that:
    a. A school bus stop may be established on a frontage road that parallels an interstate highway if no passenger is allowed to cross a divided highway.
    b. A school bus may stop in a safety rest area as defined by A.R.S. § 28-7901(8) that is part of or adjacent to an interstate highway.
9. A school bus driver shall load or unload passengers on school grounds only in an area designated by the school and marked with a sign as a school bus loading area.
10. During loading or unloading of passengers at a designated school bus loading area at a school, the school shall restrict the loading area to school buses, passengers, and school employees assisting in the loading or unloading of passengers.
11. A school shall allow passengers in a designated school bus loading area only when the passengers are being loaded on or unloaded from a school bus.
12. A school shall designate all school bus loading areas at locations that prevent backing of the school bus.
13. In areas at a school not designated as a school bus loading area, a school bus driver shall not back upon or adjacent to the school grounds unless an individual authorized by the school bus driver directs the backing procedure while standing at the rear of the school bus in a position visible to the school bus driver. This provision does not apply to a school bus garage or school bus storage area where passengers are not allowed.
14. Immediately before a school bus driver engages in backing a school bus, the school bus driver shall sound the horn to warn motorists and pedestrians of the backing procedure. This provision does not apply if the school bus is equipped with an alarm that operates automatically when the school bus is backing.
15. In addition to the requirements for railroad grade crossings contained in A.R.S. § 28-853, a school bus driver shall comply with the following:
    a. Use hazard warning lights as described in A.R.S. § 28-947(D) within a minimum of 100 feet of ~~all~~ a railroad grade ~~crossings~~ crossing to warn motorists of an intended stop.
    b. Shut off any radio, compact-disc player, and other source of sound within 50 feet of a railroad grade crossing.
    c. Stop the school bus, with or without passengers aboard, at a railroad grade ~~crossings~~ crossing when traffic at the railroad grade crossing is not directed by a police officer.
    d. While stopped at a railroad grade crossing at which traffic is not directed by a police officer, completely open the service door and the window to the left of the driver and, by hearing and sight, determine that it is safe to cross. Before proceeding, close the service door.
    e. Do not stop to load or unload passengers within 200 feet of a railroad grade crossing. This provision does not prohibit stops at a railroad station or on a highway that parallels the railroad tracks.
16. When a school bus driver loads a wheelchair passenger on a school bus, the school bus driver shall secure both the wheelchair and the wheelchair passenger using the systems described in R17-9-105(E).

C. An employer shall not allow or require a school bus driver to drive a school bus nor shall a school bus driver drive a school bus:
1. For more than 10 hours after having been off-duty for a minimum of eight consecutive hours;
2. For any period after having been on-duty for 15 hours after having been off-duty for a minimum of eight consecutive hours;
3. After having been on-duty 60 hours in any seven consecutive days if the employer does not operate school buses for seven consecutive days; or

4. After having been on-duty 70 hours in any eight consecutive days if the employer operates school buses every day of the week.

D. Other requirements:

1. A school bus driver shall wear a seat belt whenever the school bus is in motion.
2. While operating a school bus, a school bus driver shall wear closed-toe, closed-heel shoes that will not interfere with driving the school bus safely or ~~with~~ performing other duties of the school bus driver.
3. A school bus driver shall comply with all state traffic laws while operating a school bus except that the school bus driver shall not exceed 65 miles per hour or the posted speed limit, whichever is less, when operating the school bus on an interstate highway.
4. Passengers shall comply with all instructions given to them by a school bus driver. A passenger or a non-passenger who boards ~~the~~ a school bus and refuses to comply with the school bus driver's instructions may be surrendered into the custody of a person who is authorized by the school to assume responsibility for the passenger or non-passenger.
5. All passengers shall sit with their backs against the seat backs, their legs facing towards the front of the school bus, and all parts of their bodies clear of all aisles whenever the school bus is in motion.
6. A school bus driver shall not transport in a school bus more passengers than the rated capacity stated by the school bus manufacturer.
7. A school bus driver shall close the service doors of a school bus before operating the school bus. The service doors shall remain closed whenever the school bus is in motion.
8. A school bus driver shall not place the transmission in neutral or coast with the clutch disengaged on a downhill grade.
9. The driver of a school bus equipped with a ~~2~~ two-speed axle shall not shift the axle while descending any hill posted with grade warning signs.
10. A school bus driver shall ensure that a school bus is not fueled in a closed building, while the school bus engine is running or while passengers are on board.
11. A school bus driver or passenger shall not use tobacco in any form on a school bus.
12. A school bus driver shall not carry on a school bus or consume any beverage containing any alcohol while on-duty with the employer or within eight hours before going on-duty with the employer.
13. A school bus driver shall not eat or drink on a school bus unless the school bus is completely stopped.
14. A school bus driver shall not at any time carry on a school bus or use a controlled substance.
15. A passenger shall not carry on a school bus~~,~~ or consume while being transported in a school bus, any ~~controlled substance or any~~ beverage containing any alcohol.
16. A passenger shall not carry on a school bus or consume while being transported in a school bus, any dangerous or narcotic drug, as defined in A.R.S. § 13-3401, unless:
    a. A medical practitioner authorized by the state to write a prescription for the dangerous or narcotic drug has pre-scribed the dangerous or narcotic drug for the passenger who is carrying or consuming it;
    b. The school district governing board establishes written policies and procedures regarding the administration of a dangerous or narcotic drug by a trained district employee to a passenger who is being transported in a school bus; and
    c. The parent or legal guardian of a passenger to whom a dangerous or narcotic drug is administered while being transported in a school bus provides prior written authorization for the dangerous or narcotic drug to be adminis-tered to the passenger by a trained district employee.
16. 17. A school bus driver shall not assume responsibility for transporting any medication, whether prescription or over-the-counter, that belongs to a passenger.
17. 18. A school bus driver shall not transport animals, insects, or reptiles in a school bus with the exception of service ~~dogs~~ animals, as defined at A.R.S. § 11-1024~~(G)~~ (J), which assist disabled passengers.
18. 19. Except for eyeglasses, a passenger or school bus driver shall not carry or transport glass objects on a school bus.
19. 20. A school bus driver or passenger shall not carry on or transport in a school bus an explosive device, gun, knife, or other weapon as defined by school-district policy.
20. 21. A passenger shall not place any part of the passenger's body out of a school bus window or door except when exit-ing the school bus.
21. 22. When instruments or equipment related to musical or athletic events are transported on a school bus, the school bus driver shall transport them as follows:
    a. Instruments or equipment shall not occupy seating space if needed for a passenger,
    b. Instruments or equipment shall not be placed in the school bus driver's compartment or step-well of the school bus,
    c. Instruments or equipment shall be under the passenger's control at all times or secured in the school bus, and
    d. Instruments or equipment shall not block an aisle or emergency exit of the school bus at any time.
22. 23. A passenger who carries onto a school bus an object other than an instrument or equipment related to musical or athletic events shall control the object at all times or secure the object in the school bus. If the passenger is not able to

control or secure the object in the school bus, the passenger shall not carry the object onto the school bus.

~~23.~~24.A school bus driver shall ensure that all objects inside the school bus are under a passenger's control or secured in a manner that prevents the objects from causing physical injury to others or affecting the safe operation of the school bus.

~~24.~~25.A school bus driver shall not drive a school bus with a trailer or other vehicle attached to the school bus.

~~25.~~26.A school bus driver shall stop the school bus and check the wheels and tires for wear, damage, and inflation after every two continuous hours of driving.

~~26.~~27.All school buses shall have and school bus drivers shall use a ~~2~~ two-way voice communication system.

~~27.~~28.A school bus driver shall not wear an audio headset, earphones, or ear plugs, or use a cellular telephone when the school bus is in motion

~~28.~~29.Except when complying with R17-9-108(D), if a school bus driver leaves the driver's compartment, the school bus driver shall set the parking-brake system, place a standard transmission in either first or reverse gear, place an automatic transmission in park or neutral, and turn off the ignition and remove the ignition key from an ignition that uses a key, or set the ignition power-deactivation switch of an ignition that does not use a key.

~~29.~~30.Each time a school bus driver unloads passengers and it appears that no passengers remain on the school bus, the school bus driver shall inspect the interior of the school bus for passengers remaining and objects left on the school bus.

~~30.~~31.At least twice during every school year, a school shall conduct an evacuation drill of a school bus at the school that includes every passenger who rides a school bus and is in school on the day of the evacuation drill. At least 14 days before an evacuation drill, a school shall submit to the Department a written notice stating the date, time, and location of the evacuation drill. Each school bus driver shall participate in a minimum of two evacuation drills during every school year. Evacuation drills shall include:
    a.   Practice and instruction in the location, use, and operation of the emergency exits, fire extinguishers, first aid equipment, windows as a means of escape, and communication systems;
    b.   Practice and instruction in when and how to approach, load, unload, and move away from the school bus a minimum of 100 feet;
    c.   Instructions on how weather-related hazards affect emergency procedures; and
    d.   Instructions on the importance of orderly conduct.

~~31.~~32.A white, flashing, strobe lamp as described in A.A.C. R17-9-107(15)(f) may be used only during conditions that produce low visibility or that are hazardous.

~~32.~~33.An owner shall ensure that no lock, except as provided in R17-9-107(8)(h), is installed on any school bus emergency exit or service door.

34. A school bus driver shall ensure that nothing obstructs or interferes with the use of any school bus emergency exit or service door.

~~33.~~35.~~All~~ A school bus ~~drivers and passengers~~ driver, passenger, or school administrator shall immediately report to the employer any violation of these rules or state statutes that the school bus driver, passenger, or school administrator reasonably believes threatens the health, safety, or welfare of a passenger.

E. Reports and recordkeeping:

    1   Immediately following any accident involving a school bus, the school bus driver shall report the accident to the employer.

    2.   Immediately upon receiving notification of any accident involving a school bus, the employer shall notify the Department of the accident by telephone. The employer shall submit written verification of the accident to the Department within 72 hours of the telephone notification.

    3.   Immediately upon becoming aware of a violation of these rules or state statutes that a reasonable person could conclude ~~causes~~ caused injury to or threatened the health, safety, or welfare of a passenger, the employer shall notify the Department of the violation by telephone. The employer shall submit a written report of the violation to the Department within 72 hours of the telephone notification.

    4.   No later than 14 days after an evacuation drill, a school district shall submit to the Department a written report of the evacuation drill identifying the school district, participating school, date, and number of participants.

    5.   From the date on which a record is created, the employer shall maintain for three years the following written records for each school bus driver:
        a.   On a daily basis, the period of time each school bus driver is on-duty for the employer including the date, each start and quit time, and the total number of hours on-duty for the employer.
        b.   On a daily basis, the total number of hours on-duty for an entity other than the employer during the previous seven days.

    6.   A school bus driver who performs any compensated work for an entity other than the employer shall provide the employer, in writing, the name and telephone number of the entity and the number of hours the school bus driver works each day for the entity.

7. A school bus driver who receives a citation, whether on-duty or off-duty, shall immediately inform the employer by telephone about the citation and shall submit a copy of the citation to the employer within five days.

R17-9-109. Time-frames for Making Certification Determinations
A. For certification as a school bus driver, ~~classroom instructor, or behind-the-wheel instructor,~~ the time-frames required by A.R.S. § 41-1072 et seq. are:
  1. Overall time-frame: 60 days
  2. Administrative completeness review time-frame: 45 days
  3. Substantive review time-frame: 15 days
B. An administratively complete application for certification <u>as a school bus driver</u> consists of all the information and documents listed in<u>:</u>
  ~~1.~~ R17-9-102(A) ~~for a school bus driver,~~
  ~~2.~~ ~~R17-9-103(A) for a classroom instructor, and~~
  ~~3.~~ ~~R17-9-103(D) for a behind-the-wheel instructor~~.
C. An administrative completeness review time-frame, as described in A.R.S. § 41-1072(1) and listed in subsection (A)(2), begins on the date the Department receives an application.
  1. If the application is not administratively complete when received, the Department shall send a notice of deficiency to the applicant. The deficiency notice shall state the documents and information needed to complete the application.
  2. Within 120 days from the postmark date of the deficiency notice, the applicant shall submit to the Department the missing documents and information. The time-frame for the Department to finish the administrative completeness review is suspended from the postmark date of the deficiency notice until the date the Department receives the missing documents and information.
  3. If the applicant fails to provide the missing documents and information within the time provided, the Department shall close the applicant's file. An applicant whose file is closed and who wants to be certified shall apply again under R17-9-102 ~~or R17-9-103~~.
  4. If the application is administratively complete, the Department shall send a written notice of administrative completeness to the applicant.
D. A substantive review time-frame, as described in A.R.S. § 41-1072(3) and listed in subsection (A)(3), begins on the postmark date of the notice of administrative completeness.
  1. During the substantive review time-frame, the Department may make one comprehensive written request for additional information.
  2. The applicant shall submit to the Department the additional information identified in the request for additional information within 20 days from the postmark date of the request for additional information. The time-frame for the Department to finish the substantive review of the application is suspended from the postmark date of the request for additional information until the Department receives the additional information.
  3. Unless an applicant requests that the Department deny certification within the 20-day period in subsection (D)(2), the Department shall close the file of an applicant who fails to submit the additional information within the 20 days provided. An applicant whose file is closed and who wants to be certified shall apply again under R17-9-102 ~~or R17-9-103~~.
  4. When the substantive review is complete, the Department shall inform the applicant in writing of its decision whether to certify the applicant.
     a. The Department shall deny certification if it determines that the applicant does not meet all substantive criteria for certification required by statute and rule. An applicant who is denied certification may appeal the Department's decision under A.R.S. § 41-1092 et seq. and any rules ~~adopted~~ <u>made</u> under A.R.S. § 41-1092.01(C)(4).
     b. The Department shall grant certification if it determines that the applicant meets all substantive criteria for certification required by statute and rule.

<u>R17-9-112. Enforcement Audits</u>
A. <u>To enforce the provisions of this Chapter, the Department may conduct an audit of any of the records required to be maintained under this Chapter. The audit may be conducted for cause or without cause.</u>
B. <u>The Department may enter an employer's or owner's place of business to conduct an audit.</u>
C. <u>An employer or owner shall make records available to the Department during regular business hours at the employer's or owner's place of business or at another mutually agreeable location.</u>
D. <u>Within 10 business days after completing an audit, the Department shall inform the employer or owner in writing of any concerns identified.</u>
E. <u>The Department and the employer or owner shall make a written agreement specifying the actions that must be taken to address the concerns identified by the audit and the time within which the actions will be taken.</u>

Exhibit A. ~~Proof of Completion of Behind-the-wheel Training and Driving Test~~ <u>Repealed</u>

~~ARIZONA DEPARTMENT OF PUBLIC SAFETY~~

~~PROOF OF COMPLETION OF BEHIND-THE-WHEEL TRAINING AND~~
~~DRIVING TEST~~

~~A.R.S. § 28-3228 requires an applicant to "complete. . . behind the wheel training," before being certified as a school bus driver.~~

~~The behind-the-wheel instructor shall complete this form to show that the applicant has completed a minimum of 20 hours of behind-the-wheel training as required by A.A.C. R17-9-102(E)(6).~~

~~Applicant's Name_____~~   ~~Date of Completion of Training_____~~

~~Employer/School Dist._____~~   ~~Employer No./Dist. No._____~~

~~Hours of training on each type of school bus:~~
  ~~Type A _____~~
  ~~Type B _____~~
  ~~Type C _____~~
  ~~Type D _____~~
  ~~Special Needs (Type A, B, C, or D)_____~~

~~ROAD TEST~~
~~After completing a minimum of 20 hours of behind-the-wheel training, an applicant shall demonstrate the ability to operate a school bus and transport passengers safely by passing an operations test. The behind-the-wheel instructor shall accompany the applicant and rate the applicant's performance.~~

~~INSTRUCTION~~

~~This test shall be conducted on streets or highways. Simulated stops (passenger loading and unloading and railroad grade crossings) shall be in areas where traffic will not be disrupted.~~

~~DRIVING TEST SCORE SHEET~~

~~A behind-the-wheel instructor shall place an X on a square if the applicant demonstrates competence in the following areas:~~

~~PRE-TRIP OPERATIONS CHECK~~
  ~~Checks all items listed in R17-9-108(D)(1) and (2)~~   ☐
  ~~Fastens seat belt before moving the school bus~~   ☐

~~GEAR SELECTION & CLUTCH~~
  ~~Selects proper gear~~   ☐
  ~~Coordinates use of clutch & accelerator~~   ☐
  ~~Performs downshifting/double-clutching procedures~~   ☐
  ~~Is able to start motion of school bus on a grade~~   ☐
  ~~Not applicable (automatic transmission)~~   ☐

~~BRAKES~~
  ~~Applies brakes smoothly~~   ☐
  ~~Observes air pressure, vacuum, or hydraulic gauge~~   ☐

~~MIRRORS~~
  ~~Checks for proper adjustment of outside and inside mirrors~~☐

~~STOPS FOR RAILROADS~~
  ~~Stops within 50 ft., but more than 15 ft., from nearest rail~~   ☐
  ~~Turns radio off and other sources of noise within 50 ft. of nearest rail~~   ☐
  ~~Activates hazard lamps no more than 100 ft. from railroad crossing~~   ☐
  ~~Stops, opens service door and driver's side window,~~
  ~~looks and listens for trains in accordance with R17-9-104(B)(15)~~   ☐
  ~~Closes service door before moving across the railroad tracts~~   ☐

~~Crosses railroad crossing without changing gears of the school bus~~ ❑

~~DRIVING TECHNIQUES~~
~~Uses turn signals when changing lanes~~ ❑
~~Uses turn signals when making turns~~ ❑
~~Uses proper lanes when turning~~ ❑
~~Activates turn signal no less than 100 ft. before turn~~ ❑
~~Maintains distance between school bus and other vehicles appropriate for speed and traffic and weather conditions~~❑
~~Drives at speed that is legal and appropriate for conditions~~❑
~~Follows all rules when driving through school zone~~ ❑

~~PASSENGER LOADING/UNLOADING~~
~~Properly uses 4 or 8-light system~~ ❑
~~Extends stop arm when stopped~~ ❑
~~Positions school bus in compliance with R17-9-104(B) when loading and unloading passengers~~❑

~~BACKING~~
~~Complies with R17-9-104(B)(13) and (14)~~ ❑
~~Uses assistance when backing adjacent to a school~~ ❑
~~Sounds horn if there is no alarm that works automatically with backup lamps~~❑
~~Observes backing procedure in all situations~~ ❑

~~PARKING~~
~~Uses proper parking procedures~~ ❑
~~Uses parking brake system properly~~ ❑
~~Uses proper gear placement when parking~~ ❑

~~The following require that an applicant be rejected:~~
~~1.~~ ~~A chargeable accident during testing.~~
~~2.~~ ~~Instructor having to take controls of school bus because of unsafe driving performance.~~
~~3.~~ ~~Violation of A.R.S. Title 28 or this Chapter that could cause an accident or injury to passengers.~~

~~Based on the driving test given, I conclude that~~ _____
                                                    ~~Applicant's Name~~

~~is • is not • qualified to operate a school bus and transport passengers safely.~~

_____   _____   _____
~~Behind-the-wheel Instructor~~   ~~Inst. Cert. No.~~   ~~Date~~

_____
~~Behind-the-wheel Instructorprinted name~~

NOTICE OF PROPOSED RULEMAKING

TITLE 19. ALCOHOL, HORSE AND DOG RACING, LOTTERY, AND GAMING

CHAPTER 3. ARIZONA STATE LOTTERY COMMISSION

PREAMBLE

1. **Sections Affected**   **Rulemaking Action**

Article 4	Amend
R19-3-401	Amend
R19-3-402	Repeal
R19-3-402	New Section
R19-3-403	Repeal
R19-3-403	New Section
R19-3-404	New Section
R19-3-405	New Section
R19-3-406	New Section
R19-3-407	New Section
R19-3-408	New Section
R19-3-409	New Section
R19-3-410	New Section
R19-3-411	New Section
R19-3-412	New Section

2. **The specific authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):**

Authorizing statute: A.R.S. § 5-504(B). The specific statute for orders approving a game profile is A.R.S. §§ 5-504(C)(D), to authorize a multi-state game is A.R.S. § 5-504(I)

3. **A list of all previous notices appearing in the Register addressing the proposed rules:**

Notice of Rulemaking Docket Opening: 10 A.A.R. 370, January 30, 2004

4. **The name and address of agency personnel with whom persons may communicate regarding the rulemaking:**

Name:	Kathleen S. Pushor, Executive Director
Address:	Arizona Lottery Arizona Lottery 4740 E. University Drive Phoenix, AZ 85034
Telephone:	(480) 921-4400
Fax:	(480) 921-4488
E-mail:	katiep@lottery.state.az.us
	or
Name:	Pam Scharon, Budget Manager
Address:	Arizona Lottery Arizona Lottery 4740 E. University Drive Phoenix, AZ 85034
Telephone:	(480) 921-4489
Fax:	(480) 921-4425
E-mail:	pam@lottery.state.az.us

5. **An explanation of the rules, including the agency's reason for initiating the rules:**

Article 4, the rules for the Lottery's On-line Games set forth provisions unique to the conduct of the Arizona Lottery's on-line games. These rules explain the common components of on-line games: game profiles, how to play an on-line game, ticket characteristics and restrictions, drawings, ticket ownership and responsibilities, how to identify a winning ticket, the procedures required to claim prizes and the claim period, ticket validation requirements, prize payments, and disputes concerning a ticket.

6. **A reference to any study relevant to the rule that the agency reviewed and either proposes to rely on or not rely on in its evaluation of or justification for the rules where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:**
None

7. **A showing of good cause why the rules are necessary to promote a statewide interest if the rules will diminish a previous grant of authority of a political subdivision of this state:**
Not applicable

8. **The preliminary summary of the economic, small business, and consumer impact:**
A. The Arizona State Lottery.

These rules allow the Lottery to introduce new on-line games and modify existing on-line games in a more timely and cost effective manner, thus providing the State and licensed retailers with a potential to increase sales revenue. The rules also provide an effective method for management of tickets and validations to limit losses to the Lottery.

B. Political Subdivisions.

Political subdivisions of this state are not directly affected by these rules.

C. Businesses Directly Affected by this Rulemaking.

Lottery licensed retailers are the only businesses affected by these rules. The rules' impact on licensed Lottery retailers is to specify how they determine if a ticket is a winning ticket and if so, the prize amount. The rules provide for the effective management of equipment and supplies provided by the Lottery to licensees. These rules allow the Lottery to introduce new on-line games and modify existing on-line games in a timelier manner, thus providing licensed retailers with a potential increase in sales revenue. Licensed retailers currently receive $.065 for each $1 transaction.

D. Private and Public Employment.

Private and public employees are not directly affected by the adoption of these rules.

E. Consumers and the Public.

There are no costs to the public associated with the adoption of these rules. The rules provide for efficient prize redemption by the public and a fair and objective manner for handling economic disputes. These rules also provide players with additional or enhanced on-line games from which to choose.

F. State Revenues.

These rules allow the Lottery to introduce new on-line games and modify existing on-line games in a timely manner, thus providing the State with a potential to increase sales revenue.

9. **The name and address of agency personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:**

Name:	Kathleen S. Pushor, Executive Director
Address:	Arizona Lottery Arizona Lottery 4740 E. University Drive Phoenix, AZ 85034
Telephone:	(480) 921-4400
Fax:	(480) 921-4488
E-mail:	katiep@lottery.state.az.us
	or
Name:	Pam Scharon, Budget Manager
Address:	Arizona Lottery Arizona Lottery 4740 E. University Drive Phoenix, AZ 85034
Telephone:	(480) 921-4489
Fax:	(480) 921-4425
E-mail:	pam@lottery.state.az.us

10. **The time, place, and nature of the proceedings for the making, amendment, or repeal of the rules or, if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rule:**
Date: June 11, 2004

Time: 10:00 a.m.

Location: Arizona Lottery
4740 E. University Drive
Phoenix, AZ 85034

Nature: Oral Proceeding (Close of the record is 5:00 p.m., M.S.T., Thursday, June 10, 2004, for written comments and at the end of the oral proceeding for verbal comments.)

11. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

Not applicable

12. Incorporation by reference and their location in the rules:

None

13. The full text of the rule follows:

TITLE 19. ALCOHOL, HORSE AND DOG RACING, LOTTERY, AND GAMING

CHAPTER 3. ARIZONA STATE LOTTERY COMMISSION

ARTICLE 4. ~~ON-LINE LOTTERY GAMES~~ DESIGN AND OPERATION OF ON-LINE GAMES

ARTICLE 4. ~~ON-LINE LOTTERY GAMES~~ DESIGN AND OPERATION OF ON-LINE GAMES

R19-3-401.   ~~Arizona On-line Games - General Provisions~~ Definitions

~~A.~~ Definitions. In this Chapter, unless the context otherwise requires, these words and terms shall have the following meanings:

~~1.~~   ~~"Breakage" means a situation in which the shares in each prize category are rounded down to the nearest ten cents.~~

~~2.~~1.   "Cash value" means payment of the Division 1 prize pool share amount paid in one lump sum as provided in the prize structure in the game profile.

~~3.~~2.   "Drawing" means the process used to randomly select the winning ~~numbers~~ play symbols from the defined game matrix.

~~4.~~3.   "On-line Lottery Game" means a game where tickets are purchased through a network of Arizona Lottery-issued computer terminals located in retail outlets. The terminals are linked to a central computer that records the wagers.

~~4.~~   ~~"Fantasy 5" means a game in which five numbers of a 35-number matrix are selected as a game play.~~

4.   "Fixed payout" means a set prize dollar amount for that specific prize in the prize structure.

~~5.~~5.   "Game board" or "board" means the areas of the selection slip which ~~contains numbered squares~~ contain a matrix that lists all the offered play symbols. ~~Each game board is identified with one letter from A through E, corresponding to the numbers selected and printed on the purchased ticket.~~ More than one game board may appear on the selection slip.

6.   "Game option" means a game feature that is tied to a specific game which the player has a choice to play.

~~6.~~7.   "Game play" or "play" means the selected ~~numbers~~ play symbols which appear on a ticket as a single ~~lettered selection~~ wager. More than one game play may appear on a ticket.

8.   "Game profile" means the written document in which the Lottery Commission authorizes the Director to issue an order that contains all of the non-confidential game fundamentals required by these rules for an on-line game.

~~7.~~9.   "Game ticket" or "ticket" means a ~~ticket~~ receipt produced by a Lottery- issued terminal ~~which contains the caption designating the game name, from one to five lettered game plays each having the numbers selected, the beginning and ending drawing dates, a four-digit security code, the price of the ticket, the number of draws,~~ evidencing the purchase

of a participation in a game or game option. The ticket contains a security code, ticket price, a retailer number, ~~and~~ a ~~12-digit~~ serial number and the game symbols purchased for one or more specific drawings.

~~8.   "LOTTO" means a game in which six numbers of a 42-number matrix are selected as a game play.~~

10.   "Matrix" means the number of selections a player may choose from a predetermined pool of play symbols.

~~9.~~11."Multiple winners" means a situation in which more than one claimant redeems an individual share in one wager.

~~10.   "Original Annuity" means an annuitized value of the Division 1 prize pool share amount paid in 20 equal annual payments.~~

12.   "Pari-mutuel" means a system in which those holding winning tickets divide the total prize amount in proportion to their wagers.

13.   "Play style" means the description in the game profile of the matrix, play symbols, and the manner of selecting the winning play symbols.

14.   "Play symbols" means the numbers, letters, symbols, or pictures used in the matrix to determine if a player is entitled to a prize.

~~11.~~15."POWERBALL" means a multi-state game ~~in which five numbers of a 45-number matrix plus one number of a second 45-number matrix are selected as a game play~~ that is conducted pursuant to the rules of the Multi-State Lottery Association (MUSL) and approved by a game profile.

16.   "Prize category" means the value of a specific prize.

17.   "Prize structure" means the chart of the prize value, number of prizes or prize payout percentage, any fixed payments, any pari-mutuel payments, and the odds of winning the prizes.

18.   "Prohibited games" mean on-line or electronic keno or internet games.

~~12.~~19."Quick pick" means the random selection by a terminal of ~~numbers~~ one or more play symbols from the defined game matrix. ~~matrix, which appear on a ticket as a single lettered selection.~~

~~13.~~20."Selection slip" means a ~~card used in marking a player's game plays~~ preprinted set of game boards provided by the Lottery upon which the player selects play symbols and game options. Each selection slip ~~has five~~ may have multiple game boards.

~~14.   "Set Prize" means a prize that is advertised to be paid by a single cash payment.~~

~~15.~~21."Share" means any single winning game play, which is equal to any other ~~share~~ in the same prize ~~category~~ division.

~~16.~~22."Terminal" means a device ~~which is~~ authorized by the Lottery linked to a central computer ~~to function in an on-line, interactive mode with the Lottery's computer system. The terminal is functional~~s for the purpose of issuing Lottery tickets and entering, receiving, and processing Lottery transactions. ~~These transactions include producing and voiding ticket purchases, validating winning tickets, and transmitting reports.~~

~~17.~~23."Winning numbers or winning play symbols" means the numbers or play symbols from the defined game matrix randomly selected at each drawing which determine winning game plays contained on a ticket.

~~**B.**~~ ~~Price of game plays. Each game play shall sell for no more than $1.00.~~

~~**C.**~~ ~~Ticket purchase, characteristics, and restrictions. The retailer shall issue a ticket from the terminal containing any selected set of numbers from the defined game matrix.~~

~~1.   To play an on-line game, a player may select one or more sets of different numbers from the defined game matrix for input into a terminal. A play may select each set by:~~

~~a.   Verbally communicating the numbers to a retailer,~~

~~b.   Marking the numbered squares required in any one game board on a selection slip and submitting the selection slip to a retailer,~~

~~c.   Requesting a "quick pick" from the retailer, or~~

~~d.   Marking "quick pick" on a selection slip.~~

~~2.   A ticket, subject to the validation requirements of subsection (G), is the only proof of any game play and the only valid receipt for claiming any prize. A selection slip has no pecuniary or prize value and does not constitute evidence of any ticket purchased.~~

~~3.   A ticket holder may have a Lotto or Fantasy 5 ticket voided by returning the ticket to the retailer who sold it on the date of purchase before the terminal is closed for that day. Powerball tickets may not be voided or canceled by returning the ticket to the retailer who sold it or ro the lottery, including tickets that are printed in error. No ticket shall be returned to the Lottery for credit. Tickets accepted by retailers as returned tickets and which cannot be resold shall be deemed owned by the bearer thereof.~~

~~4.   If a ticket is voided as prescribed in paragraph (3), the retailer shall refund the ticket price to the ticket holder.~~

~~5.   The Lottery shall not be liable for tickets printed in error. The ticket purchaser is responsible for the accuracy of any game play and other data printed on the ticket. In the event of an error, the player's sole remedy is the voiding of the ticket, pursuant to paragraph (3).~~

~~6.   Retailer shall not sell a ticket or combination of tickets to any person or entity which would guarantee such purchaser a win.~~

~~7.   Plays may only be entered manually using the lottery terminal keypad or touch screen or by means of a selection slip provided by the Lottery and hand-marked by the player. Retailers shall not permit the use of facsimiles of selection~~

slips, copies of selection slips, or other materials that are inserted into the terminal's selection slip reader that are not printed or approved by the Lottery.

D. Drawings.

1. The drawings shall be held at the times and places established by the Director and subsequently announced to the public.

2. The objective of a LOTTO drawing is to select the six random winning numbers with the aid of mechanical drawing equipment.

3. The objective of a "Fantasy 5" drawing is to randomly select five winning numbers with the aid of mechanical drawing equipment.

4. The objective of a "POWERBALL" drawing is to randomly select five winning numbers from a 45-number matrix, plus the Powerball winning number from a second 45-number matrix, with the aid of mechanical drawing equipment.

E. Determination of "LOTTO" prize game plays.

1. Prizes shall be determined and awarded on the following basis:

Game Plays Containing	Prize Category	Share of Prize Fund
All Six Winning Numbers	Division 1 (Jackpot)	69% after Division 4 Allotment
Any Five Winning Numbers	Division 2 (Second Place) allotment	10% after Division 4
Any Four Winning Numbers	Division 3 (Third Place)	21% after Division 4 Allotment
Any Three Winning Numbers	Division 4 (Fourth Place)	$2.00

2. Each winning game play shall be paid an equal share of a prize category. No more than the highest division prize amount established shall be paid on a winning game play.

3. Any money left in a prize category after breakage shall be included in the Division 1 prize pool.

F. Determination of "Fantasy 5" prize game plays.

1. Prizes shall be determined and awarded on the following basis:

Game Plays Containing	Prize Category	Prize
All Five Winning Numbers	Division 1 (Top Prize)	$50,000
Any Four Winning Numbers	Division 2 (Second Place)	$500
Any Three Winning Numbers	Division 3 (Third Place)	$5

2. No more than the highest division prize amount established shall be paid on a winning game play.

3. If there are more than ten Division 1 winning game plays in a single drawing, each will receive an equal proportionate share of a maximum $500,000.

G. Determination of POWERBALL prize game plays.

1. Prizes shall be determined and awarded on the following basis:

Game plays Matching Lottery Draws of:	Prize Category	Prize or Share Of Prize Pool:
All 5 of 1st matrix plus 1 of 2nd	Jackpot	60.56 of Prize Pool
All 5 of 1st matrix and 0 of 2nd	Division 2	$100,000
Any 4 of 1st matrix plus 1 of 2nd	Division 3	$5000
Any 4 of 1st matrix plus 0 of 2nd	Division 4	$100
Any 3 of 1st matrix plus 1 of 2nd	Division 5	$100
Any 3 of 1st matrix plus 0 of 2nd	Division 6	$5
Any 2 of 1st matrix plus 1 of 2nd	Division 7	$5
Any 1 of 1st matrix plus 1 of 2nd	Division 8	$2
0 of 1st matrix plus 1 of 2nd	Division 9	$1

2. Each Jackpot winning game play shall be paid an equal share of the prize category. No more than the highest division prize amount established shall be paid on a winning game play.

3. The prize pool percentage allocated to the set prizes (the cash prizes of $100,000 or less) shall be carried forward to subsequent draws if all or a portion of it is not needed to pay the set prizes awarded in the current draw. If the total of

the set prizes awarded in a drawing exceeds the percentage of the prize pool allocated to the set prizes, then the amount needed to fund the set prizes awarded shall be drawn from the following sources, in the following order:
    a. The amount allocated to the set prizes and carried forward from pervious draws, if any;
    b. An amount from the set prize reserve account, if available, not to exceed $20 million per drawing.
  4. If, after these sources are depleted, there are not sufficient funds to pay the set prizes awarded, then the highest set prize shall become a pari-mutual prize. If the amount of the highest set prize, when paid on a pari-mutual basis, drops to or below the next highest set prize and there are still not sufficient funds to pay the remaining set prizes awarded, then the next highest set prize shall become a pari-mutual prize. This procedure shall continue down through all set prizes levels, if necessary, until all set prize levels become pari-mutual prize levels. In that instance, the money available from the funding sources listed in this rule shall be divided among the winning plays in proportion to their respective prize percentages.

H. Ticket ownership and responsibility.
  1. Until a ticket is signed, the ticket is owned by its physical possessor.
  2. When signed, the claimant whose signature appears on the ticket is entitled to the corresponding prize.
  3. If more than one signature appears on the ticket, the Director is authorized to require that one or more of those claimants be designated to receive payment.
  4. A claim form shall be submitted by each claimant who is designated by the Director to receive a portion of the prize claimed form the winning ticket.
  5. Any claim forms submitted shall be signed by all other claimants whose signatures appear on the ticket and who are relinquishing their individual claims to the winning ticket.
  6. Payment shall be made to any claimants designated on the claim form.
  7. The Lottery is not responsible for lost or stolen tickets.

I. Ticket validation requirements.
  1. To be a ticket eligible to receive a prize, all of the following requirements shall be satisfied.
    a. The ticket is:
      i. Issued by the Lottery through a retailer, from a terminal, in an authorized manner;
      ii. Intact and is not mutilated or tampered with in any manner;
      iii. Not defectively printed or produced in error;
      iv. Not counterfeit, stolen, or voided; and
      v. Able to pass all other confidential validation tests determined by the Director;
      vi. Validated in accordance with the provisions of subsections (K) and (L).
    b. The ticket data is:
      i. Recorded in the on-line contractor's central computer system prior to the drawing;
      ii. In agreement with the computer record;
      iii. In the Lottery's official file of winning tickets and has not been previously paid.
    c. Any winning game play on the ticket is separately lettered and consists of a selected set of numbers from the defined game matrix.
  2. If a ticket fails to pass any of the requirements in paragraph (1), the ticket is void and ineligible for any prize payment.

J. Disputes concerning a ticket.
  1. If a dispute between the Lottery and a claimant occurs concerning a ticket, the Director is authorized to replace the disputed ticket with a ticket of equivalent sales price from any subsequent drawing of the same game.
  2. Replacement of the disputed ticket is the sole and exclusive remedy for a claimant.

K. Procedure for claiming prizes.
  1. To claim a prize up to $600, the claimant shall present the signed ticket to any participating on-line retailer. The retailer shall pay the claimant provided that:
    a. All of the ticket validation criteria in subsection (H) have been satisfied; and
    b. A proper validation ticket, which is an authorization to pay, has been issued by the terminal.
  2. To claim a prize that the retailer does not validate or is not authorized to pay, including all prizes over $600, the claimant shall submit a claim form, available from any retailer, and the ticket to the Lottery.
  3. If the claim is:
    a. Validated by the Lottery, a check shall be forwarded to the claimant;
    b. Denied by the Lottery, the claimant shall be notified within 15 days from the day the claim is received in the Lottery office.

L. Prize payments.
  1. If a ticket contains more than one winning game play, any prize amounts shall be combined and paid in accordance with the prize payments limits specified in subsection (J).
  2. Prizes shall be paid by cash or check at the discretion of the Director.
  3. "LOTTO" Division 1 prize cash value (prize pool share amount) may be paid in one lump sum at the winners'

discretion when purchasing the ticket.

4. "LOTTO" Division 1 prizes of %400,000 or more, regardless of the number of shares, may be paid in 20 equal annual payments at the winners' discretion when purchasing the ticket. These payments shall commence with the time of validation and thereafter be paid on the anniversary date of the winning prize drawing.
   a. If the death of a "LOTTO" prize winner occurs, the Lottery shall pay all remaining prize payments to the prize winner's beneficiary or to any person designated by an appropriate judicial order.
   b. The Lottery shall provide the prize amount in the form of an annuity.

5. POWERBALL Division One Jackpot prizes of $250,000 or more, regardless of the number of shares, shall be paid in 20 equal annual payments. The payments shall commence with the time of validation or after the 15th calendar day following the drawing, whichever is later, and thereafter be paid on the anniversary date of the winning prize drawing.
   a. If the death of a POWERBALL prize winner occurs, the Lottery shall pay all remaining prize money to the prize winner's estate, to the beneficiary designated to the Lottery by the prize winner, or to any person designated to the Lottery by the prize winners, or to any person designated by an appropriate judicial order.
   b. The Lottery shall provide the prize amount in the form of an annuity.

M. Prize Fund.
   1. 50% of the gross sales revenue from the "LOTTO" game, less any voids, is reserved for prizes and is allocated to the prize categories specified in subsection(E).
   2. If it is determined that there are no winning for a specific prize category in any "LOTTO" drawing, all monies allocated for that prize category shall be combined with the monies allocated for the Division 1 prize category. This rollover process continues until there is a winning ticket for the Division 1 prize category.
   3. 50% of the gross sales revenue from the "Fantasy 5" game, less any voids, is reserved for prizes and is allocated to the prize categories specified in subsection(F).
   4. 50% of the gross sales revenue from the POWERBALL game is reserved for prizes and is allocated to the prize categories specified in subsection (G).
   5. If an on-line game is terminated for any reason, any remaining prize monies shall be held by the Lottery for a period of 180 days from the date of the last drawing and then used for additional prizes in any other lottery game.

R19-3-402. ~~"Arizona Bingo"~~ **Game Profile**
A. Definitions.
   1. "Arizona Bingo" means an on-line game in which 24 play symbols of a 75 play symbol matrix are selected as a game card.
   2. "Drawing" means the process used to randomly select winning play symbols from the defined game matrix.
   3. "Game card" means the area on the ticket which contains the grid in which 24 randomly selected play symbols are printed. There may be more than one game card on a ticket.
   4. "Game Profile" means the written document that includes non-confidential game information including, but not limited to, the game prize structure, winning game play style(s), and special game feature(s).
   5. "Multiple winners" means a situation in which more than one claimant redeems an individual share.
   6. "On-line game" means a game that is played by entering a player's game play(s) into a lottery authorized terminal to produce a ticket. The game play(s) on the ticket are compared to winning numbers selected during the drawing process to determine if a ticket holder is entitled to a prize or prizes.
   7. "Play symbols" means the numbers, letters, or characters printed on each game card of a ticket that determine if a player is entitled to a prize.
   8. "Terminal" means a device which is authorized by the Lottery to function in an on-line, interactive mode with the Lottery's computer system. The terminal is functional for the purpose of issuing Lottery tickets and entering, receiving, and processing Lottery transactions. These transactions include producing and voiding ticket purchases, validating winning tickets, and transmitting reports.
   9. "Ticket" means paper stock issued from a terminal by a licensed Lottery agent bearing one or more game cards.
   10. "Winning play symbols" means the numbers from the defined game matrix randomly selected at each drawing which determine winning game plays contained on a ticket.
B. Game Profile
   1. The commission shall approve the individual game profile prior to the game being introduced to the public for sale.
   2. At a minimum, the Game Profile for each game shall contain the following information:
      a. Game name;
      b. Prize structure, including the approximate odds and amount of prizes available, and the prize pool percentage;
      c. Winning Play styles;
      d. Special feature, if any;
      e. Retail sales price.
C. Ticket Purchase and Characteristics

1. ~~To play the on-line "Arizona Bingo" game, a player shall indicate the following by verbally communicating to the retailer:~~
   a. ~~The number of tickets the player wishes to purchase, and~~
   b. ~~The number of advance plays, if applicable.~~
2. ~~A unique serial number shall be printed on the front of the ticket that will distinguish it from every other ticket.~~
3. ~~A retailer shall issue, from an authorized Lottery terminal, a ticket containing one or more game play areas ("game cards") as specified in the Game Profile, each of which shall contain 24 randomly selected play symbols from a matrix of 75 play symbols and a "FREE" play symbol.~~
   a. ~~The 24 randomly selected play symbols shall be printed on each of the play cards forming a grid of five rows and five columns.~~
   b. ~~The third play symbol in the third column shall be the symbol "FREE".~~
4. ~~On line "Arizona Bingo" tickets may not be voided or canceled.~~
D. ~~Drawing~~
1. ~~The drawings shall be held at the times and places established by the Director and subsequently announced to the public.~~
2. ~~The objective of the "Arizona Bingo" drawing is to select the twenty-four random winning play symbols with the aid of computerized drawing equipment.~~
E. ~~Game Playstyle and Determination of a Winning Game Card~~
1. ~~A player shall win the prize(s) indicated in the Game Profile by matching the winning play symbols selected at the drawing to the play symbols that appear in one or more of the following patterns on each game card:~~
   a. ~~Five consecutive play symbols, including the "FREE" play symbol, if appropriate, in any horizontal, vertical, or diagonal line as illustrated in Exhibit "1", or~~
   b. ~~Play symbols in all four corners as illustrated in Exhibit "2", or,~~
   c. ~~All five consecutive play symbols in the top row, the bottom row, and the first and fifth columns forming an outer frame pattern as illustrated in Exhibit "3", or~~
   d. ~~The second, third, and fourth play symbols in the second row and in the fourth row, the second, third, and fourth play symbols in the second column and the fourth column, forming an inner frame pattern as illustrated in Exhibit "4", or~~
   e. ~~The first, second, fourth, and fifth play symbols in the first, second, fourth, and fifth rows, forming a box pattern in each of the four corners as illustrated in Exhibit "5", or~~
   f. ~~The third play symbol in the first and fifth rows, the second and fourth play symbols in the second and fourth rows, and the first and fifth play symbols in the third row, forming a diamond pattern as illustrated in Exhibit "6", or~~
   g. ~~The third, fourth, and fifth play symbols in the first and fifth columns, the second and third play symbols in the second and fourth columns, the first play symbol in the third column, and the "FREE" play symbol forming an "A" pattern as illustrated in Exhibit "7", or~~
   h. ~~The first, second, third, fourth, and fifth play symbols in the first and fifth rows, and the first play symbols in the second, third, and fourth rows, forming a "C" pattern as illustrated in Exhibit "8", or~~
   i. ~~The first, second, third, fourth, and fifth play symbols in the first column, and the second, third, fourth, and fifth play symbols in the fifth row, forming an "L" pattern as illustrated in Exhibit "9", or~~
   j. ~~The first, second, third, fourth, and fifth play symbols in the first and fifth columns, and the third play symbol in the second and fourth columns, and the "FREE" play symbol, forming an "H" pattern as illustrated in Exhibit "10", or~~
   k. ~~The first, second, third, fourth, and fifth play symbols in the first row, and the second play symbol in the third column, the "FREE" play symbol, and the fourth, and fifth play symbols in the third column, forming a "T" pattern as illustrated in Exhibit "11", or~~
   l. ~~Five consecutive play symbols in both diagonals forming an "X" pattern as illustrated in Exhibit "12", or~~
   m. ~~The first, second, third, fourth, and fifth play symbols in the first row and fifth row, the second play symbol in the fourth row, the "FREE" play symbol, and the fourth play symbol in the second row, forming a "Z" pattern as illustrated in Exhibit "13", or~~
   n. ~~The first, second, third, fourth, and fifth play symbols in the first row, the fourth play symbol in the second row, the "FREE" play symbol, the second play symbol in the fourth row, and the first play symbol in the fifth row, forming a "7" pattern as illustrated in Exhibit "14", or~~
   o. ~~All of the play symbols in the first, second, third, fourth, and fifth rows, and including the "FREE" play symbol, creating a "blackout" as illustrated in Exhibit "15".~~
2. ~~Players can win on each game card on a ticket.~~
3. ~~There may be multiple winning patterns on a single game card matching five consecutive play symbols, including the "FREE" play symbol if appropriate, in any horizontal, vertical, or diagonal line as illustrated in Exhibit "1."~~
4. ~~In the event multiple winning patterns occur on a single game card as described in (E)(1)(b) through (E)(1)(o), only~~

the highest established prize value shall be paid on each game card.

F. Ticket Ownership and Responsibility; Prize Payment

1. Until a ticket is signed, the ticket is owned by its physical possessor.
2. When signed, the claimant whose signature appears on the ticket is entitled to the corresponding prize.
3. If more than one signature appears on the ticket, the Director is authorized to require that one or more of those claimants be designated to receive payment.
4. A claim form shall be submitted by each claimant who is designated by the Director to receive a portion of the prize claimed from the winning ticket.
5. Prior to payment of a prize, a claimant who has signed the ticket may designate another claimant to receive the prize by signing a relinquishment of claim statement.
6. Prizes shall be paid by cash or check, according to the provisions in Section I of this rule.
7. All prize levels are fixed amounts, and are specified in the Game Profile. Each game card winning any prize entitles the winner to the prize amount specified in the Game Profile.
8. The Lottery is not responsible for lost or stolen tickets.

G. Ticket Validation Requirements

1. To be a ticket eligible to receive a prize, all of the following requirements shall be satisfied:
   a. The ticket is:
      i. Issued by the Lottery through a retailer, from a terminal, in an authorized manner;
      ii. Intact, and is not mutilated or tampered with in any manner;
      iii. Not defectively printed or produced in error;
      iv. Not counterfeit, stolen, or voided;
      v. Able to pass all other security requirements determined by the Director;
      vi. Validated in accordance with the provisions of Subsections F and I.
   b. The ticket data is:
      i. Recorded in the on-line contractor's central computer system prior to the drawing;
      ii. In agreement with the computer record;
      iii. In the Lottery's official file of winning tickets and has not been previously paid.
   c. Any winning game play on the ticket is separately lettered or numbered and consists of a selected set of numbers from the defined game matrix.
2. If a ticket fails to pass any of the requirements in Paragraph 1, the ticket is void and ineligible for any prize payment.

H. Disputes Concerning a Ticket

1. If a dispute between the Lottery and a claimant occurs concerning a ticket, the Director is authorized to replace the disputed ticket with a ticket of equivalent sales price from any subsequent drawing of the same game.
2. Replacement of the disputed ticket is the sole and exclusive remedy for a claimant.

I. Procedure for Claiming Prizes

1. To claim a prize of up to and including $599.00, the claimant shall present the signed ticket to any participating on-line retailer. The retailer shall pay the claimant provided that:
   a. All of the ticket validation criteria in Subsection G have been satisfied; and
   b. A proper validation ticket, which is an authorization to pay, has been issued by the terminal.
2. To claim a prize that the retailer does not validate or is not authorized to pay, including all prizes $600.00 or more, the claimant shall submit a claim form, available from any retailer, and the ticket to the Lottery.
3. If the claim is:
   a. Validated by the Lottery, a check shall be forwarded to the claimant.
   b. Denied by the Lottery, the claimant shall be notified within 15 days from the day the claim is received in the Lottery office.

J. The definitions and provisions of R19-3-401 except for those contained in H, I, J, and K, do not apply to the on-line "Arizona Bingo" playstyle.

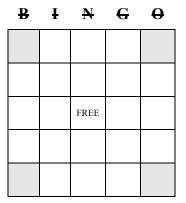**Exhibit 1.** ~~Any Horizontal, Vertical, or Diagonal Line~~ <u>Repealed</u>

B I N G O

Exhibit 2. ~~Four Corners~~ <u>Repealed</u>

B I N G O

Exhibit 3. ~~Outer Frame~~ <u>Repealed</u>

B I N G O

Exhibit 4. ~~Inner Frame~~ <u>Repealed</u>

B I N G O

Exhibit 5. ~~Four Corner Box Patters~~ <u>Repealed</u>

B I N G O

Exhibit 6. ~~Diamond Pattern~~ <u>Repealed</u>

B I N G O

Exhibit 7.   ~~"A" Pattern~~ Repealed

B I N G O

Exhibit 10.   ~~"H" Pattern~~ Repealed

B I N G O

Exhibit 8.   ~~"C" Pattern~~ Repealed

B I N G O

Exhibit 11.   ~~"T" Pattern~~ Repealed

B I N G O

Exhibit 9.   ~~"L" Pattern~~ Repealed

B I N G O

Exhibit 12.   ~~"X" Pattern~~ Repealed

B I N G O

Exhibit 13.   ~~"Z" Pattern~~ Repealed

B I N G O

		FREE		

Exhibit 14.   ~~"7" Pattern~~ Repealed

B I N G O

		FREE		

Exhibit 15.   ~~"Blackout"~~ Repealed

B I N G O

		FREE		

A. At a minimum, the Game Profile for each game or game option shall contain the following information:
1. Game name or game option name;
2. Matrix/description of how to play and win;
3. Retail sales price;
4. Purchase conditions and characteristics;
5. Play symbols and prize symbols, if any;
6. Prize structure, including the approximate odds, the prize amounts available, the prize pool percentage, if alternate prize structures will be used, any subsection (B) provisions, and any special Division 1 prize specifications;
7. Special features, if any; and
8. Prize draw eligibility requirements, including filing period for eligibility in a winners drawing, if applicable.

B. Each on-line game or option may include specific variants that provide added or alternative methods of winning. Any variants will be described in the Game Profile.

C. The Commission shall approve the Game Profile prior to the game being sold to the public.

R19-3-403. ~~"PICK 3™"~~ Ticket Purchases, Characteristics, and Restrictions

~~**A.** Definitions. The following definitions and the definitions in R19-3-401(A)(3), (A)(5), (A)(9), (A)(12), (A)(13), (A)(15) and (A)(16) apply to PICK 3™.~~
1. ~~"Game play" or "play" means the selected numbers which appear on a ticket as a single wager. More than 1 game play may appear on a ticket.~~
2. ~~"Game Profile" means a written document that contains non-confidential game information including the game name, matrix/prize structure, prize fund percentage, game play styles, the frequency of drawings, play symbols, retail sales price, and special game features.~~
3. ~~"On-line game" means a game that is played by entering a player's game play or plays into a lottery authorized terminal to produce a ticket. The game play or plays on the ticket are compared to winning numbers selected during the drawing process to determine if a ticket holder is entitled to a prize or prizes.~~
4. ~~"PICK 3™" means an on-line game in which 3 play numbers between 0 and 9 are selected as a game play.~~
5. ~~"Play symbols" means the numbers, letters, or characters printed on each game play of a ticket that determine if a player is entitled to a prize.~~
6. ~~"Ticket" means paper stock issued from a terminal by a licensed Lottery retailer containing 1 or more game plays with the game play data for an individual game. The game play data includes at least the caption designating the game name, individual game plays which display the selected numbers, letters, or symbols, the dates of the drawings, the price of the ticket, the number of draws, retailer number, and a unique serial number.~~
7. ~~"Winning play symbols" or "winning numbers" means the 3 numbers between 0 and 9 that are randomly selected at each drawing which determine winning game plays contained on a ticket.~~

~~**B.** Ticket Purchase and Characteristics~~
1. ~~To play the on-line PICK 3™ game, a player shall select 1 or more game plays of 3 numbers and a game play style for each game play for input into a terminal. A player may select each game play by:~~
   a. ~~Verbally communicating the numbers to a retailer;~~
   b. ~~Marking the numbered squares required in any 1 game board on a selection slip and submitting the selection slip to a retailer;~~
   c. ~~Requesting a "quick pick" from the retailer, or~~
   d. ~~Marking "quick pick" on a selection slip.~~
2. ~~The price for each game play shall be no more than $1.~~
3. ~~A PICK 3™ ticket, subject to the validation requirements of subsection (G), is the only proof of any game play and the only valid receipt for claiming any prize. A selection slip has no pecuniary value and does not constitute evidence of any ticket purchased.~~
4. ~~A unique serial number shall be printed on the front of the ticket and will distinguish it from every other ticket.~~
5. ~~A retailer shall issue, from an authorized Lottery terminal, a ticket containing 1 or more game play areas as specified in the Game Profile, each of which shall contain 3 selected play symbols from 0 through 9.~~
6. ~~A ticket holder may not have a PICK 3™ ticket voided or canceled.~~
7. ~~The Lottery shall not be liable for ticket errors. The ticket holder is responsible for the accuracy of ticket data.~~

~~**C.** Drawings~~
1. ~~The objective of a PICK 3™ drawing is to randomly select 3 single digit winning numbers as defined in the Game Profile. Mechanical, electrical or computerized drawing equipment shall be used to make the random selection. The 3 single digit numbers shall be used to determine PICK 3™ winning game plays.~~
2. ~~The drawings shall be held at the times and places established by the Director and subsequently announced to the public.~~

~~**D.** Game Play Styles~~
1. ~~The PICK 3™ game play styles shall be listed in the Game Profile and shall be 1 or more of the following:~~

a. "Straight" means a play in which the player matches all 3 selected winning numbers in the exact order drawn.
b. "3-way box" means a play in which the player matches all 3 selected winning numbers in any order drawn and 2 of the 3 numbers are identical.
c. "6-way box" means a play in which the player matches all 3 selected winning numbers in any order drawn.
d. "3-way straight box" means a play in which the player matches all 3 selected numbers in the exact order drawn or in any order drawn, and 2 of the 3 numbers are identical.
e. "6-way straight box" means a play in which the player matches all 3 selected winning numbers in the exact order drawn or any order drawn.
f. "Front pair" means a play in which the player matches the 1st 2 selected winning numbers in the exact order drawn.
g. "Back pair" means a play in which the player matches the last 2 selected winning numbers in the exact order drawn.
h. "Lead digit" means a play in which the player matches the 1st selected winning number.
2. More than 1 game play style may appear on a ticket.

E. Determination of a Winning PICK 3™ Game Play
1. A player shall win the prize amount indicated in the matrix/prize structure described in the Game Profile by matching the winning play symbols selected at the drawing to the play symbols that appear in 1 or more of the following game play styles on each game play. Prizes shall be determined and awarded on the following basis:

Game Play style & Prize Category	Odds of Winning	Prize Amount
Straight	1:1000	$500
3-Way Box	1:333.33	$160
3-Way Straight	1:1000	$330
Box (Combo)*	1:333.33	$80
6-Way Box	1:166.66	$80
6-Way Straight	1:1000	$290
Box (Combo)**	1:166.66	$40
Front Pair	1:100	$50
Back Pair	1:100	$50
Lead Digit	1:10	$5

- "3-way straight box" pays three hundred thirty dollars ($330) if numbers match in exact order drawn and pays eighty dollars ($80) if numbers match in any other order drawn.
-- "6-way straight box" pays two hundred ninety dollars ($290) if numbers match in exact order drawn and forty dollars ($40) if numbers match in any other order drawn.
2. Players can win on each game play on a ticket.
3. No more than the highest prize amount established shall be paid on a winning game play.

F. Ticket Ownership and Responsibility; Prize Payment
1. Until a ticket is signed, the ticket is owned by its physical possessor.
2. When signed, the claimant whose signature appears on the ticket is entitled to the corresponding prize, subject to section F(5) below.
3. If more than 1 signature appears on the ticket, the Director shall require that 1 or more of those claimants be designated to receive payment. A claim form shall be submitted by each claimant who is designated by the director to receive a portion of the prize claimed from the winning ticket.
4. Prior to payment of a prize, a claimant who has signed the ticket may designate another claimant to receive the prize by signing a relinquishment of claim statement.
5. If a winning ticket was purchased by a group of players, the group shall designate 1 of the claimants to sign the ticket. Each claimant shall complete a claim form to receive the claimant's portion of the prize. In the case of a dispute concerning ownership of a ticket, the claimant whose signature appears on the ticket is entitled to the corresponding prize.
6. The Lottery shall only make payment to the claimant, less any authorized debt set-off amounts, who is also the holder of the ticket.
7. Prizes shall be paid by cash or check, according to the provisions in sub-section H of this rule.
8. All prize levels are fixed amounts, and are specified in the Game Profile. Each play winning any prize entitles the winner to the prize amount specified in the Game Profile.
9. The Lottery is not responsible for lost or stolen tickets.

G. ~~Ticket Validation Requirements~~
1. ~~Each ticket shall be valid and validated prior to the payment of a prize.~~
2. ~~For a ticket to be eligible for a prize, all of the following requirements shall be satisfied:~~
  a. ~~The ticket is:~~
    i. ~~Issued by the Lottery through a retailer, from a terminal, in an authorized manner;~~
    ii. ~~Intact, and is not mutilated or tampered with in any manner;~~
    iii. ~~Not defectively printed, reprinted stating "Not for Sale" on the ticket, or produced in error;~~
    iv. ~~Not counterfeit, stolen, or voided;~~
    v. ~~Able to pass all other confidential validation requirements determined by the Director;~~
    vi. ~~Validated in accordance with the provisions of Subsections F and H.~~
  b. ~~The ticket data is:~~
    i. ~~Recorded in the on-line contractor's central computer system prior to the drawing;~~
    ii. ~~In agreement with the contractor's central computer system record;~~
    iii. ~~In the Lottery's official file of winning tickets and has not been previously paid.~~
  c. ~~Any winning game play on the ticket is separately lettered or numbered and consists of a selected set of numbers from the defined game matrix.~~
3. ~~If a ticket fails to pass any of the requirements in subsection 2, the ticket is void and ineligible for any prize payment.~~
H. ~~Procedure for Claiming Prizes~~
1. ~~To claim a prize of up to and including $500, the claimant shall present the signed ticket to any participating on-line retailer. The retailer shall pay the claimant provided that:~~
  a. ~~All of the ticket validation criteria in Subsection G have been satisfied; and~~
  b. ~~A proper validation ticket, which is an authorization to pay, has been issued by the terminal.~~
2. ~~To claim a prize that the retailer does not validate, the claimant shall submit a claim form (available from the Lottery or any retailer) and the ticket to the Lottery.~~
3. ~~If the claim is:~~
  a. ~~Verified and validated by the Lottery, the Lottery shall make payment of the amount due to the claimant, less any authorized debt set-off amounts.~~
  b. ~~Denied by the Lottery, the Lottery shall notify the claimant within 15 days from the day the claim is received in the Lottery office.~~
4. ~~The Lottery is discharged of all liability upon payment of the prize.~~
I. ~~Claim Period~~
1. ~~In order for the claimant to receive payment, a winning on-line game ticket shall be received by the Lottery or a retailer no later than 5:00 p.m., Mountain Standard Time on the 180th calendar day following the on-line game drawing in which the prize was won.~~
2. ~~If a claimant presents a valid winning ticket to a retailer for payment on the 180th calendar day following the announced end of game or on-line game drawing and is not paid the prize, the Director is authorized to pay the prize if the claimant presents the valid winning ticket to the Lottery no later than 5:00 p.m. (Phoenix time) on the following business day.~~
3. ~~The end of an on-line game shall be designated by the Director and on file at the Lottery.~~
J. ~~Disputes Concerning a Ticket~~
1. ~~If a dispute between the Lottery and a claimant occurs concerning a ticket, the Director is authorized to replace the disputed ticket with a ticket of equivalent sales price from any subsequent drawing from any current on-line game.~~
2. ~~If a defective ticket is purchased, the Lottery shall replace the defective ticket with a ticket or tickets of equivalent sales price from any current game.~~
3. ~~Replacement of the disputed ticket is the sole and exclusive remedy for a claimant.~~
A. To play an on-line game, a player shall select the specified number of play symbols from the defined game matrix approved in the Game Profile for input into the terminal. Selection methods include:
1. Communicating the play symbols and game options to a retailer, or
2. Marking the selection slip and submitting the selection slip to a retailer, or
3. Requesting a "Quick Pick," or
4. Marking a "Quick Pick" box on a selection slip.
B. Game plays must be entered into the Lottery terminal manually or by inserting a Lottery selection slip that is hand marked by the player. Facsimiles, simulations, copies of selection slips, or other materials not printed or approved by the Lottery are prohibited from use.
C. To claim a prize, a player must submit the original ticket for validation. Selection slips are not proof of purchase.
D. The ticket holder is responsible for the accuracy of ticket data. The Lottery shall not be liable for ticket errors.

R19-3-404.   Drawings
A. The drawings shall be held at the times and places established in the Game Profile.

B. The on-line game drawing shall randomly select the winning play symbols from those defined in the Game Profile. Mechanical, electrical, or computerized drawing methods may be used to make the random selection.

R19-3-405. **Determination of a Winning Game Play**

A. A player shall win the prize(s) indicated in the prize structure by matching the winning play symbols selected at the drawing to the play symbols selected by the player.

B. Players can win on each game play on a ticket.

C. There may be multiple winning patterns on a single ticket that match winning patterns described in the Game Profile.

D. The prize structure ordered in the Game Profile shall determine the pari-mutuel and/or fixed prize amount to be paid on a single winning game play.

R19-3-406. **Ticket Ownership and Responsibility; Prize Payment**

A. Until a ticket is signed, the ticket is owned by its physical possessor.

B. The Director shall recognize as the owner of a winning on-line ticket the person whose signature appears upon the ticket in the area designated for that purpose.

    1.   If more than one signature appears on the ticket, the Director is authorized to require that one or more of those claimants be designated to receive the payment. A claim form shall be submitted by each claimant who is designated to receive a portion of the prize claimed from the winning ticket.

    2.   Prior to payment of a prize, a claimant who has signed the ticket may designate another claimant to receive the prize by signing a relinquishment of claim statement.

    3.   When the winning ticket was purchased by a group of players, the group shall designate one of the claimants to sign the ticket for the group. Each claimant shall complete an individual claim form to receive the claimant's portion of the prize.

    4.   In the event there is an inconsistency in the information submitted on a claim form and as shown on the winning on-line ticket, the Director shall authorize an investigation and withhold all winnings payable to the ticket owner or holder until such time as the Director is satisfied that the proper person is being paid.

C. Prior to paying the claimant a prize of $600 or more, the Lottery shall match the winner's name against the lists of persons owing a debt to a participating state agency, furnished to the Lottery under A.R.S. § 5-525.

    1.   If there is a match on any of the claims submitted with a ticket the amount that is owed shall be deducted from the prize due the claimant.

    2.   The claimant shall be notified in writing of the amount of the set-off and the agency to which it will be paid.

    3.   If the claimant has two or more agencies which are owed a debt the Lottery shall pay a pro-rata share to each of the agencies, except that a Department of Economic Security overdue child support set-off will be paid in full before any amount will be paid to another agency.

    4.   The claimant shall be notified that a right to appeal the set-off exists and must be commenced within 30 days of the receipt of this notification. The notification will include the name and address of the agency with which to file the appeal.

    5.   If after deducting withholding taxes and the set-off, a portion of the prize remains then that portion will be paid to the winner with the notification of set-off.

    6.   The amount of set-off shall be forwarded to the agency, and that agency will be responsible for any appeal and crediting of the payment against the amount owed or refunding any amount to the winner.

    7.   Upon a determination that a set-off is due, the winner loses the right under subsection (B)(2) to assign the claim.

D. Prizes shall be paid by cash, check, or if requested by the player, by Lottery tickets.

    1.   If a ticket contains more than one winning game play, any prize amounts shall be combined and paid in accordance with the prize payment limits specified in Section R19-3-408.

    2.   Each winning game play wins the prize amount specified in the Game Profile.

E. The Lottery is not responsible for lost or stolen tickets.

R19-3-407. **Ticket Validation Requirements**

A. Each on-line game ticket shall be validated prior to the payment of a prize.

B. To be eligible for a prize, a ticket holder must present a ticket meeting all of the following requirements;

    1.   Issued by the Lottery through a retailer, from a terminal, in an authorized manner;

    2.   Intact and not mutilated or tampered with in any manner;

    3.   Not defectively printed;

    4.   Not a reprinted ticket stating "Not for Sale" on the ticket;

    5.   Not counterfeit or stolen;

    6.   Able to pass all other confidential validation tests determined by the Director; and

    7.   Validated in accordance with the provisions of sections R19-3-406 and R19-3-408.

    8.   The ticket data is:

        a.   Recorded in the designated central computer system prior to the drawing;

      b.   In agreement with the computer record;

      c.   In the Lottery's official file of winning tickets;

  9.   Any winning game play on the ticket consists of a selected set of play symbols from the defined game matrix.

  10. Has not been previously paid.

C. If the ticket fails to pass any of the requirements in Section R19-3-407(B), the ticket is void and ineligible for any prize payout.

R19-3-408.   Procedure for Claiming Prizes

A. To claim a prize of up to and including $599, the claimant shall present the signed ticket to any participating on-line licensed retailer. The licensed retailer shall pay a winner prizes up to and including $100 and may pay a winner a prize up to and including $599 provided that:

  1.   All of the ticket validation criteria in Section R19-3-407 has been satisfied; and

  2.   A proper validation slip, which is an authorization to pay, has been issued by the terminal.

B. To claim a prize that the retailer does not validate or is not authorized to pay, including all prizes of $600 or more, the claimant shall submit a claim form, available from any retailer, and the ticket to the Lottery. If the claim is:

  1.   Verified and validated by the Lottery as a winning ticket, the Lottery shall make payment of the amount due to the claimant, less any authorized debt set-off amounts and/or withheld taxes.

  2.   Denied by the Lottery, the claimant shall be notified within 15 days from the day the claim is received in the Lottery office.

C. If a prize winner dies prior to receiving full payment, the Lottery shall pay all remaining prize money to the prize winner's beneficiary or to any person designated by an appropriate judicial order.

D. The Lottery is discharged of all liability upon payment of the prize money.

E. Payment of prize money shall not be accelerated ahead of its normal date of payment.

R19-3-409.   Claim Period

A. In order for the claimant to receive payment, a winning on-line game ticket shall be received by the Lottery or a retailer no later than 5:00 p.m. (Phoenix time) on the 180th calendar day following the game drawing date.

B. If a claimant presents a valid winning ticket to a retailer for payment on the 180th calendar day following the game drawing date and is not paid the prize, the Director is authorized to pay the prize if the claimant presents the valid winning ticket to the Lottery no later than 5:00 p.m. (Phoenix time) on the following business day.

C. The end of an on-line game shall be designated by the Director and on file at the Lottery.

R19-3-410.   Disputes Concerning a Ticket

A. If a dispute between the Lottery and a claimant occurs concerning a ticket, the Director is authorized to replace the disputed ticket with a ticket of equivalent sales price for any subsequent drawing from the same game.

B. If a defective ticket is purchased, the Lottery shall replace the defective ticket with a ticket or tickets of equivalent sales price from the same game.

C. Replacement of the disputed ticket is the sole and exclusive remedy for a claimant.

D. If a dispute between the Lottery and a claimant occurs concerning the eligibility of an entry into a Grand Prize drawing, the Director is authorized to place any person's eligible entry that was not entered in the Grand Prize drawing into a subsequent Grand Prize drawing or drawings.

R19-3-411.   Prize Fund

A. Not less than 50% of the total annual revenue accruing from the sale of on-line game tickets shall be deposited in the state lottery prize fund for payment of prizes to the holders of winning tickets.

B. If an on-line game is terminated for any reason, any remaining prize monies shall be held by the Lottery for a period of 180 days from the date of the last drawing and then used for additional prizes in any other Lottery game.

R19-3-412.   Multi-state Lottery Association Games

A. The Arizona Lottery is a participating member of the Multi-state Lottery Association (MUSL) referred to as a "party lottery" in the MUSL game rules.

B. A game profile approved by the Commission and conforming to the information required in R19-3-403 shall be on file at the Arizona State Lottery for all MUSL games played in Arizona.