CHAPTER 2747

DEPARTMENT OF COMMERCE

VALUATION OF LIFE INSURANCE POLICIES

2747.0010 APPLICABILITY.

Subpart 1. **Generally.** This chapter applies to all life insurance policies, with or without nonforfeiture values, issued on or after January 1, 2000, subject to the exceptions and conditions in subparts 2 and 3.

Subp. 2. **Exceptions.**

A. This chapter does not apply to an individual life insurance policy issued on or after January 1, 2000, if the policy is issued according to and as a result of the exercise of a reentry provision contained in the original life insurance policy of the same or greater face amount, issued before January 1, 2000, that guarantees the premium rates of the new policy. This chapter also does not apply to subsequent policies issued as a result of the exercise of such a provision, or a derivation of the provision, in the new policy.

B. This chapter does not apply to any universal life policy that meets all of the following requirements:

(1) the secondary guarantee period, if any, is five years or less;

(2) the specified premium for the secondary guarantee period is not less than the net level reserve premium for the secondary guarantee period based on the 1980 CSO valuation tables as defined in part 2747.0020 and the applicable valuation interest rate; and

(3) the initial surrender charge is not less than 100 percent of the first year annualized specified premium for the secondary guarantee period.

C. This chapter does not apply to any variable life insurance policy that provides for life insurance, the amount or duration of which varies according to the investment experience of any separate account or accounts.

D. This chapter does not apply to a variable universal life insurance policy that provides for life insurance, the amount or duration of which varies according to the investment experience of any separate account or accounts.

E. This chapter does not apply to a group life insurance certificate unless the certificate provides for a stated or implied schedule of maximum gross premiums required in order to continue coverage in force for a period in excess of one year.

Subp. 3. **Conditions.**

A. Calculation of the minimum valuation standard for policies with guaranteed nonlevel gross premiums or guaranteed nonlevel benefits, other than universal life policies, or both, is according to part 2747.0040.

B. Calculation of the minimum valuation standard for flexible premium and fixed premium universal life insurance policies, that contain provisions resulting in the ability of a policyholder to keep a policy in force over a secondary guarantee period, is according to part 2747.0050.

Statutory Authority: *MS s 45.023; 61A.25*

History: *24 SR 800*

2747.0020 DEFINITIONS.

Subpart 1. **Scope.** For purposes of this chapter, the terms defined in this part have the meanings given them.

Subp. 2. **Basic reserves.** "Basic reserves" means reserves calculated according to Minnesota Statutes, section 61A.25, subdivision 4.

Subp. 3. **Contract segmentation method.** "Contract segmentation method" means the method of dividing the period from issue to mandatory expiration of a policy into successive segments, with the length of each segment being defined as the period from the end of the prior segment, from policy inception for the first segment, to the end of the latest policy year as determined in this subpart. All calculations are made using the 1980 CSO valuation tables, as defined in subpart 7, or any other valuation mortality table adopted by the National Association of Insurance Commissioners after January 1, 2000, and adopted by rule by the commissioner for this purpose, and, if elected, the optional minimum mortality standard for deficiency reserves stipulated in part 2747.0030, subpart 2.

The length of a particular contract segment must be set equal to the minimum of the value t for which G_t is greater than R_t (if G_t never exceeds R_t the segment length is deemed to be the number of years from the beginning of the segment to the mandatory expiration date of the policy), where G_t and R_t are defined as follows:

$$G_t = \frac{GP_{x+k+t}}{GP_{x+k+t-1}}$$

where:

$x =$	original issue age;
$k =$	the number of years from the date of issue to the beginning of the segment;
$t =$	$1, 2, ...;$ t is reset to 1 at the beginning of each segment;
$GP_{x+k+t-1} =$	Guaranteed gross premium per thousand of face amount for year t of the segment, ignoring policy fees only if level for the premium paying period of the policy.

$$R_t = \frac{q_{x+k+t}}{q_{x+k+t-1}},$$

However, R_t may be increased or decreased by one percent in any policy year, at the company's option, but R_t shall not be less than one;

where:

x, k, and t are as defined in this subpart; and

$q_{x+k+t-1} =$	valuation mortality rate for deficiency reserves in policy year $k+t$ but using the mortality of part 2747.0030, subpart 2, item B, if part 2747.0030, subpart 2, item C, is elected for deficiency reserves.

However, if GP_{x+k+t} is greater than 0 and $GP_{x+k+t-1}$ is equal to 0, G_t shall be deemed to be 1,000. If GP_{x+k+t} and $GP_{x+k+t-1}$ are both equal to 0, G_t shall be deemed to be 0.

Subp. 4. **Deficiency reserves.** "Deficiency reserves" means the excess, if greater than zero, of:

A. minimum reserves calculated according to Minnesota Statutes, section 61A.25, subdivision 7; over

B. basic reserves.

Subp. 5. **Guaranteed gross premiums.** "Guaranteed gross premiums" means the premiums under a policy of life insurance that are guaranteed and determined at issue.

Subp. 6. **Maximum valuation interest rates.** "Maximum valuation interest rates" means the interest rates defined in Minnesota Statutes, section 61A.25, subdivision 3b, that are to be used in determining the minimum standard for the valuation of life insurance policies.

Subp. 7. **1980 CSO valuation tables.** "1980 CSO valuation tables" means the Commissioners 1980 Standard Ordinary Mortality Table (1980 CSO Table) without ten–year selection factors, incorporated into the 1980 amendments to the National Association of Insurance Commissioners Standard Valuation Law, and variations of the 1980 CSO Table approved by the National Association of Insurance Commissioners, such as the smoker and nonsmoker versions approved in December 1983.

Subp. 8. **Scheduled gross premium.** "Scheduled gross premium" means the smallest illustrated gross premium at issue for other than universal life insurance policies. For universal life insurance policies, scheduled gross premium means the smallest specified premium described in part 2747.0050, subpart 1, item C, if any, or else the minimum premium described in part 2747.0050, subpart 1, item D.

Subp. 9. **Segmented reserves.** "Segmented reserves" means reserves, calculated using segments produced by the contract segmentation method, equal to the present value of all future guaranteed benefits less the present value of all future net premiums to the mandatory expiration of a policy, where the net premiums within each segment are a uniform percentage of the respective guaranteed gross premiums within the segment. The uniform percentage for each segment is such that, at the beginning of the segment, the present value of the net premiums within the segment equals:

A. the present value of the death benefits within the segment; plus

B. the present value of any unusual guaranteed cash value as in part 2747.0040, subpart 4, occurring at the end of the segment; less

C. any unusual guaranteed cash value occurring at the start of the segment; plus

D. for the first segment only, the excess of the subitem (1) over subitem (2), as follows:

(1) a net level annual premium equal to the present value, at the date of issue, of the benefits provided for in the first segment after the first policy year, divided by the present value, at the date of issue, of an annuity of one per year payable on the first and each subsequent anniversary within the first segment on which a premium falls due. However, the net level annual premium must not exceed the net level annual premium on the 19–year premium whole life plan of insurance of the same renewal year equivalent level amount at an age one year higher than the age at issue of the policy;

(2) a net one–year term premium for the benefits provided for in the first policy year.

The length of each segment is determined by the contract segmentation method, as defined in this part.

The interest rates used in the present value calculations for a policy may not exceed the maximum valuation interest rate, determined with a guarantee duration equal to the sum of the lengths of all segments of the policy.

For both basic reserves and deficiency reserves computed by the segmented method, present values shall include future benefits and net premiums in the current segment and in all subsequent segments.

Subp. 10. **Tabular cost of insurance.** "Tabular cost of insurance" means the net single premium at the beginning of a policy year for one–year term insurance in the amount of the guaranteed death benefit in that policy year.

Subp. 11. **Ten–year select factors.** "Ten–year select factors" means the select factors adopted with the 1980 amendments to the National Association of Insurance Commissioners Standard Valuation Law.

Subp. 12. **Unitary reserves.** "Unitary reserves" means the present value of all future guaranteed benefits less the present value of all future modified net premiums, where:

A. guaranteed benefits and modified net premiums are considered to the mandatory expiration of the policy; and

B. modified net premiums are a uniform percentage of the respective guaranteed gross premiums, where the uniform percentage is such that, at issue, the present value of the net premiums equals the present value of all death benefits and pure endowments, plus the excess of subitem (1) over subitem (2), as follows:

(1) a net level annual premium equal to the present value, at the date of issue, of the benefits provided for after the first policy year, divided by the present value, at the date of issue, of an annuity of one per year payable on the first and each subsequent anniversary of the policy on which a premium falls due. However, the net level annual premium shall not exceed the net level annual premium on the 19–year premium whole life plan of insurance of the same renewal year equivalent level amount at an age one year higher than the age at issue of the policy;

(2) a net one–year term premium for the benefits provided for in the first policy year.

The interest rates used in the present value calculations for a policy may not exceed the maximum valuation interest rate, determined with a guarantee duration equal to the length from issue to the mandatory expiration of the policy.

Subp. 13. **Universal life insurance policy.** "Universal life insurance policy" means an individual life insurance policy under the provisions of which separately identified interest credits, other than in connection with dividend accumulations, premium deposit funds, or other supplementary accounts, and mortality or expense charges are made to the policy.

Statutory Authority: *MS s 45.023; 61A.25*

History: *24 SR 800*

2747.0030 GENERAL CALCULATION REQUIREMENTS FOR BASIC RESERVES AND PREMIUM DEFICIENCY RESERVES.

Subpart 1. **Basic reserves.** At the election of the company for any one or more specified plans of life insurance, the minimum mortality standard for basic reserves may be calculated using the 1980 CSO valuation tables with select mortality factors, or any other valuation mortality table adopted by the National Association of Insurance Commissioners after January 1, 2000, and adopted by rule by the commissioner for this purpose. If select mortality factors are elected, they may be:

A. the ten–year select mortality factors incorporated into the 1980 amendments to the National Association of Insurance Commissioners Standard Valuation Law;

B. the select mortality factors in part 2747.0060; or

C. any other table of select mortality factors adopted by the National Association of Insurance Commissioners after January 1, 2000, and adopted by rule by the commissioner for the purpose of calculating basic reserves.

Subp. 2. **Deficiency reserves.** Deficiency reserves, if any, are calculated for each policy as the excess, if greater than zero, of the quantity A over the basic reserve. The quantity A is obtained by recalculating the basic reserve for the policy using guaranteed gross premiums instead of net premiums when the guaranteed gross premiums are less than the corresponding net premiums. At the election of the company for any one or more specified plans of insurance, the quantity A and the corresponding net premiums used in the determination of quantity A may be based upon the 1980 CSO valuation tables with select mortality factors, or any other valuation mortality table adopted by the National Association of Insurance Commissioners after January 1, 2000, and adopted by rule by the commissioner. If select mortality factors are elected, they may be:

A. the ten–year select mortality factors incorporated into the 1980 amendments to the National Association of Insurance Commissioners Standard Valuation Law;

B. the select mortality factors in part 2747.0060;

C. for durations in the first segment, X percent of the select mortality factors in part 2747.0060, subject to the following:

(1) X may vary by policy year, policy form, underwriting classification, issue age, or any other policy factor expected to affect mortality experience;

(2) X shall not be less than 20 percent;

(3) X shall not decrease in any successive policy years;

(4) X is such that, when using the valuation interest rate used for basic reserves, unit (a) is greater than or equal to unit (b):

(a) the actuarial present value of future death benefits, calculated using the mortality rates resulting from the application of X; and

(b) the actuarial present value of future death benefits calculated using anticipated mortality experience without recognition of mortality improvement beyond the valuation date;

(5) X is such that the mortality rates resulting from the application of X are at least as great as the anticipated mortality experience, without recognition of mortality improvement beyond the valuation date, in each of the first five years after the valuation date;

(6) the appointed actuary shall increase X at any valuation date where it is necessary to continue to meet all the requirements of this item;

(7) the appointed actuary may decrease X at any valuation date as long as X does not decrease in any successive policy years and as long as it continues to meet all the requirements of this item;

(8) the appointed actuary shall specifically take into account the adverse effect on expected mortality and lapsation of any anticipated or actual increase in gross premiums; and

(9) if X is less than 100 percent at any duration for any policy, the following requirements shall be met:

(a) the appointed actuary shall annually prepare an actuarial opinion and memorandum for the company in conformance with part 2711.0080; and

(b) the appointed actuary shall annually give an opinion for all policies subject to this chapter as to whether the mortality rates resulting from the application of X meet the requirements of this item. This opinion shall be supported by an actuarial report, subject to appropriate Actuarial Standards of Practice promulgated by the Actuarial Standards Board of the American Academy of Actuaries. The X factors shall reflect anticipated future mortality, without recognition of mortality improvement beyond the valuation date, taking into account relevant emerging experience; or

D. any other table of select mortality factors adopted by the National Association of Insurance Commissioners after January 1, 2000, and adopted by rule by the commissioner for the purpose of calculating deficiency reserves.

Subp. 3. **Use of select mortality factors.** This subpart applies to both basic reserves and deficiency reserves. Any set of select mortality factors may be used only for the first segment. However, if the first segment is less than ten years, the appropriate ten–year select mortality factors incorporated into the 1980 amendments to the National Association of Insurance Commissioners Standard Valuation Law may be used thereafter through the tenth policy year from the date of issue.

Subp. 4. **Gross premiums and policy fees.** In determining basic reserves or deficiency reserves, guaranteed gross premiums without policy fees may be used where the calculation involves the guaranteed gross premium but only if the policy fee is a level dollar amount after the first policy year. In determining deficiency reserves, policy fees may be included in guaranteed gross premiums, even if not included in the actual calculation of basic reserves.

Subp. 5. **Reserves for changed policies.** Reserves for policies that have changes to guaranteed gross premiums, guaranteed benefits, guaranteed charges, or guaranteed credits that are unilaterally made by the insurer after issue and that are effective for more than one year after the date of the change shall be the greatest of the following:

A. reserves calculated ignoring the guarantee;

B. reserves assuming the guarantee was made at issue; and

C. reserves assuming that the policy was issued on the date of the guarantee.

Subp. 6. **Documentation.** The commissioner may require that the company document the extent of the adequacy of reserves for specified blocks, including, but not limited to, policies issued prior to January 1, 2000. This documentation may include a demonstration of the extent to which aggregation with other nonspecified blocks of business is relied upon in the formation of the appointed actuary opinion pursuant to and consistent with part 2711.0080.

Statutory Authority: *MS s 45.023; 61A.25*

History: *24 SR 800*

2747.0040   CALCULATION OF MINIMUM VALUATION STANDARD FOR POLICIES WITH GUARANTEED NONLEVEL GROSS PREMIUMS OR GUARANTEED NONLEVEL BENEFITS OTHER THAN UNIVERSAL LIFE POLICIES.

Subpart 1. **Basic reserves.** Basic reserves are calculated as the greater of the segmented reserves and the unitary reserves. Both the segmented reserves and the unitary reserves for a policy shall use the same valuation mortality table and selection factors. At the option of the insurer, in calculating segmented reserves and net premiums, either of the adjustments described in items A and B may be made:

A. treat the unitary reserve, if greater than zero, applicable at the end of each segment as a pure endowment; and subtract the unitary reserve, if greater than zero, applicable at the beginning of each segment from the present value of guaranteed life insurance and endowment benefits for each segment; or

B. treat the guaranteed cash surrender value, if greater than zero, applicable at the end of each segment as a pure endowment; and subtract the guaranteed cash surrender value, if greater than zero, applicable at the beginning of each segment from the present value of guaranteed life insurance and endowment benefits for each segment.

Subp. 2. **Deficiency reserves.**

A. The deficiency reserve at any duration is calculated on:

(1) a unitary basis if the corresponding basic reserve determined by subpart 1 is unitary;

(2) a segmented basis if the corresponding basic reserve determined by subpart 1 is segmented; or

(3) the segmented basis if the corresponding basic reserve determined by subpart 1 is equal to both the segmented reserve and the unitary reserve.

B. This subpart applies to a policy for which the guaranteed gross premium at any duration is less than the corresponding modified net premium calculated by the method used in determining the basic reserves, but using the minimum valuation standards of mortality, specified in part 2747.0030, subpart 2, and rate of interest.

C. Deficiency reserves, if any, are calculated for each policy as the excess if greater than zero, for the current and all remaining periods, of the quantity A over the basic reserve, where quantity A is obtained as indicated in part 2747.0030, subpart 2.

D. For deficiency reserves determined on a segmented basis, the quantity A is determined using segment lengths equal to those determined for segmented basic reserves.

Subp. 3. **Minimum value.** Basic reserves may not be less than the tabular cost of insurance for the balance of the policy year, if mean reserves are used. Basic reserves may not be less than the tabular cost of insurance for the balance of the current modal period or to the paid–to–date, if later, but not beyond the next policy anniversary, if mid–terminal reserves are used. The tabular cost of insurance shall use the same valuation mortality table and interest rates as that used for the calculation of the segmented reserves. However, if select mortality factors are used, they shall be the ten–year select factors incorporated into the 1980 amendments of the National Association of Insurance Commissioners Standard Valuation Law. In no case may total reserves, including basic reserves, deficiency reserves and any reserves held for supplemental benefits that would expire upon contract termination, be less than the amount that the policyowner would receive, including the cash surrender value of the supplemental benefits, if any, exclusive of any deduction for policy loans, upon termination of the policy.

Subp. 4. Unusual pattern of guaranteed cash surrender values.

A. For a policy with an unusual pattern of guaranteed cash surrender values, the reserves actually held before the first unusual guaranteed cash surrender value must not be less than the reserves calculated by treating the first unusual guaranteed cash surrender value as a pure endowment and treating the policy as an n–year policy providing term insurance plus a pure endowment equal to the unusual cash surrender value, where n is the number of years from the date of issue to the date the unusual cash surrender value is scheduled.

B. The reserves actually held subsequent to any unusual guaranteed cash surrender value must not be less than the reserves calculated by treating the policy as an n–year policy providing term insurance plus a pure endowment equal to the next unusual guaranteed cash surrender value, and treating any unusual guaranteed cash surrender value at the end of the prior segment as a net single premium, where:

(1) n is the number of years from the date of the last unusual guaranteed cash surrender value before the valuation date to the earlier of:

(a) the date of the next unusual guaranteed cash surrender value, if any, that is scheduled after the valuation date; or

(b) the mandatory expiration date of the policy;

(2) the net premium for a given year during the n–year period is equal to the product of the net to gross ratio and the respective gross premium; and

(3) the net to gross ratio is equal to unit (a) divided by unit (b) as follows:

(a) the present value, at the beginning of the n–year period, of death benefits payable during the n–year period plus the present value, at the beginning of the n–year period, of the next unusual guaranteed cash surrender value, if any, minus the amount of the last unusual guaranteed cash surrender value, if any, scheduled at the beginning of the n–year period;

(b) the present value, at the beginning of the n–year period, of the scheduled gross premiums payable during the n–year period.

C. For purposes of this subpart, a policy is considered to have an unusual pattern of guaranteed cash surrender values if any future guaranteed cash surrender value exceeds the prior year's guaranteed cash surrender value by more than the sum of:

(1) 110 percent of the scheduled gross premium for that year;

(2) 110 percent of one year's accrued interest on the sum of the prior year's guaranteed cash surrender value and the scheduled gross premium using the nonforfeiture interest rate used for calculating policy guaranteed cash surrender values; and

(3) five percent of the first policy year surrender charge, if any.

Subp. 5. Optional exemption for yearly renewable term reinsurance. At the option of the company, the following approach for reserves on yearly renewable term reinsurance may be used:

A. Calculate the valuation net premium for each future policy year as the tabular cost of insurance for that future year.

B. Basic reserves shall never be less than the tabular cost of insurance for the appropriate period, as defined in subpart 3.

C. Deficiency reserves.

(1) For each policy year, calculate the excess, if greater than zero, of the valuation net premium over the respective maximum guaranteed gross premium.

(2) Deficiency reserves shall never be less than the sum of the present values, at the date of valuation, of the excesses determined in accordance with subitem (1).

D. For purposes of this subpart, the calculations use the maximum valuation interest rate and the 1980 CSO mortality tables with or without ten–year select mortality factors, or any other table adopted after January 1, 2000, by the National Association of Insurance Commissioners and adopted by rule by the commissioner for this purpose.

E. A reinsurance agreement shall be considered yearly renewable term reinsurance for purposes of this subpart if only the mortality risk is reinsured.

F. If the assuming company chooses this optional exemption, the ceding company's reinsurance reserve credit shall be limited to the amount of reserve held by the assuming company for the affected policies.

Subp. 6. **Optional exemption for attained–age–based yearly renewable term life insurance policies.** At the option of the company, the following approach for reserves for attained–age–based yearly renewable term life insurance policies may be used:

A. Calculate the valuation net premium for each future policy year as the tabular cost of insurance for that future year.

B. Basic reserves shall never be less than the tabular cost of insurance for the appropriate period, as defined in subpart 3.

C. Deficiency reserves.

(1) For each policy year, calculate the excess, if greater than zero, of the valuation net premium over the respective maximum guaranteed gross premium.

(2) Deficiency reserves shall never be less than the sum of the present values, at the date of valuation, of the excesses determined in accordance with subitem (1).

D. For purposes of this subpart, the calculations use the maximum valuation interest rate and the 1980 CSO valuation tables with or without ten–year select mortality factors, or any other table adopted after January 1, 2000, by the National Association of Insurance Commissioners and adopted by rule by the commissioner for this purpose.

E. A policy shall be considered an attained–age–based yearly renewable term life insurance policy for purposes of this subpart if:

(1) the premium rates, on both the initial current premium scale and the guaranteed maximum premium scale, are based upon the attained age of the insured such that the rate for any given policy at a given attained age of the insured is independent of the year the policy was issued; and

(2) the premium rates, on both the initial current premium scale and the guaranteed maximum premium scale, are the same as the premium rates for policies covering all insureds of the same sex, risk class, plan of insurance, and attained age.

F. For policies that become attained–age–based yearly renewable term policies after an initial period of coverage, the approach of this subpart may be used after the initial period if:

(1) the initial period is constant for all insureds of the same sex, risk class, and plan of insurance; or

(2) the initial period runs to a common attained age for all insureds of the same sex, risk class, and plan of insurance; and

(3) after the initial period of coverage, the policy meets the conditions of item E.

G. If this election is made, this approach shall be applied in determining reserves for all attained–age–based yearly renewable term life insurance policies issued on or after January 1, 2000.

Subp. 7. **Exemption from unitary reserves for certain n–year renewable term life insurance policies.** Unitary basic reserves and unitary deficiency reserves need not be calculated for a policy if the following conditions are met:

A. the policy consists of a series of n–year periods, including the first period and all renewal periods, where n is the same for each period, except that for the final renewal period, n may be truncated or extended to reach the expiry age, provided that this final renewal period is less than ten years and less than twice the size of the earlier n–year periods, and for each period, the premium rates on both the initial current premium scale and the guaranteed maximum premium scale are level;

B. the guaranteed gross premiums in all n–year periods are not less than the corresponding net premiums based upon the 1980 CSO Table with or without the ten–year select mortality factors; and

C. there are no cash surrender values in any policy year.

Subp. 8. **Exemption from unitary reserves for certain juvenile policies.** Unitary basic reserves and unitary deficiency reserves need not be calculated for a policy if the following conditions are met, based upon the initial current premium scale at issue:

A. at issue, the insured is age 24 or younger;

B. until the insured reaches the end of the juvenile period, which shall occur at or before age 25, the gross premiums and death benefits are level, and there are no cash surrender values; and

C. after the end of the juvenile period, gross premiums are level for the remainder of the premium paying period, and death benefits are level for the remainder of the life of the policy.

Statutory Authority: *MS s 45.023; 61A.25*

History: *24 SR 800*

2747.0050 MINIMUM VALUATION STANDARD FOR CERTAIN FLEXIBLE PREMIUM AND FIXED PREMIUM UNIVERSAL LIFE INSURANCE POLICIES; SECONDARY GUARANTEE PERIOD POLICIES.

Subpart 1. **General.**

A. Policies with a secondary guarantee include:

(1) a policy with a guarantee that the policy will remain in force at the original schedule of benefits, subject only to the payment of specified premiums;

(2) a policy in which the minimum premium at any duration is less than the corresponding one–year valuation premium, calculated using the maximum valuation interest rate and the 1980 CSO valuation tables with or without ten–year select mortality factors, or any other table adopted after January 1, 2000, by the National Association of Insurance Commissioners and adopted by rule by the commissioner for this purpose; or

(3) a policy with any combination of subitems (1) and (2).

B. A secondary guarantee period is the period for which the policy is guaranteed to remain in force subject only to a secondary guarantee. When a policy contains more than one secondary guarantee, the minimum reserve shall be the greatest of the respective minimum reserves at that valuation date of each unexpired secondary guarantee, ignoring all other secondary guarantees. Secondary guarantees that are unilaterally changed by the insurer after issue must be considered to have been made at issue. Reserves described in subparts 2 and 3 shall be recalculated from issue to reflect these changes.

C. Specified premiums mean the premiums specified in the policy, the payment of which guarantees that the policy will remain in force at the original schedule of benefits, but which otherwise would be insufficient to keep the policy in force in the absence of the guarantee if maximum mortality and expense charges and minimum interest credits were made and any applicable surrender charges were assessed.

D. For purposes of this part, the minimum premium for a policy year is the premium that, when paid into a policy with a zero account value at the beginning of the policy year, produces a zero account value at the end of the policy year. The minimum premium calculation shall use the policy cost factors, including mortality charges, loads and expense charges, and the interest crediting rate, which are all guaranteed at issue.

E. The one–year valuation premium means the net one–year premium based upon the original schedule of benefits for a given policy year. The one–year valuation premiums for all policy years are calculated at issue. The select mortality factors defined in part 2747.0030, subpart 2, items B to D, may not be used to calculate the one–year valuation premiums.

F. The one–year valuation premium should reflect the frequency of fund processing, as well as the distribution of deaths assumption employed in the calculation of the monthly mortality charges to the fund.

Subp. 2. **Basic reserves for secondary guarantees.** Basic reserves for the secondary guarantees must be the segmented reserves for the secondary guarantee period. In calculating the segments and the segmented reserves, the gross premiums shall be set equal to the specified premiums, if any, or otherwise to the minimum premiums, that keep the policy in

force and the segments will be determined according to the contract segmentation method as defined in part 2747.0020, subpart 3.

Subp. 3. **Deficiency reserves for secondary guarantees.** Deficiency reserves, if any, for the secondary guarantees shall be calculated for the secondary guarantee period in the same manner as described in part 2747.0040, subpart 2, with gross premiums set equal to the specified premiums, if any, or otherwise to the minimum premiums that keep the policy in force.

Subp. 4. **Minimum reserves.** The minimum reserves during the secondary guarantee period are the greater of:

A. the basic reserves for the secondary guarantee plus the deficiency reserve, if any, for the secondary guarantees; or

B. the minimum reserves required by other rules or regulations governing universal life plans.

Statutory Authority: *MS s 45.023; 61A.25*

History: *24 SR 800*

2747.0060 SELECT MORTALITY FACTORS.

Subpart 1. **Generally.** The tables of select mortality factors contained in subparts 2 to 7 include: (1) male aggregate; (2) male nonsmokers; (3) male smoker; (4) female aggregate; (5) female nonsmoker; and (6) female smoker.

These tables apply to both age last birthday and age nearest birthday mortality tables.

For sex–blended mortality tables, compute select mortality factors in the same proportion as the underlying mortality. For example, for the 1980 CSO–B Table, the calculated select mortality factors are 80 percent of the appropriate male table in this part, plus 20 percent of the appropriate female table in this part.

Subp. 2. **Male, aggregate.**

ISSUE AGE	DURATION							
	1	2	3	4	5	6	7	8
0–15	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100
17	100	100	100	100	100	100	100	100
18	96	98	98	99	99	100	100	90
19	83	84	84	87	87	87	79	79
20	69	71	71	74	74	69	69	67
21	66	68	69	71	66	66	67	66
22	65	66	66	63	63	64	64	64
23	62	63	59	60	62	62	63	63
24	60	56	56	59	59	60	61	61
25	52	53	55	56	58	58	60	60
26	51	52	55	56	58	58	57	61
27	51	52	55	57	58	60	61	61
28	49	51	56	58	60	60	61	62
29	49	51	56	58	60	61	62	62
30	49	50	56	58	60	60	62	63
31	47	50	56	58	60	62	63	64
32	46	49	56	59	60	62	63	66
33	43	49	56	59	62	63	64	62
34	42	47	56	60	62	63	61	63
35	40	47	56	60	63	61	62	65

36	38	42	56	60	59	61	63	65
37	38	45	56	57	61	62	63	65
38	37	44	53	58	61	62	65	66
39	37	41	53	58	62	63	65	65
40	34	40	53	58	62	63	65	65
41	34	41	53	58	62	63	65	64
42	34	43	53	58	61	62	63	63
43	34	43	54	59	60	61	63	62
44	34	44	54	58	59	60	61	60
45	34	45	53	58	59	60	60	60
46	31	43	52	56	57	58	59	59
47	32	42	50	53	55	56	57	58
48	32	41	47	52	54	56	57	57
49	30	40	46	49	52	54	55	56
50	30	38	44	47	51	53	54	56
51	28	37	42	46	49	53	54	56
52	28	35	41	45	49	51	54	56
53	27	35	39	44	48	51	53	55
54	27	33	38	44	48	50	53	55
55	25	32	37	43	47	50	53	55
56	25	32	37	43	47	49	51	54
57	24	31	38	43	47	49	51	54
58	24	31	38	43	48	48	50	53
59	23	30	39	43	48	48	51	53
60	23	30	39	43	48	47	50	52
61	23	30	39	43	49	49	50	52
62	23	30	39	44	49	49	51	52
63	22	30	39	45	50	50	52	75
64	22	30	39	45	50	51	75	75
65	22	30	39	45	50	65	70	70
66	22	30	39	45	60	65	70	70
67	22	30	39	60	60	65	70	70
68	23	32	55	60	60	65	70	70
69	23	52	55	60	60	65	70	70
70	48	52	55	60	60	65	70	70
71	48	52	55	60	60	65	70	70
72	48	52	55	60	60	65	70	70
73	48	52	55	60	60	65	70	70
74	48	52	55	60	60	65	70	70
75	48	52	55	60	60	65	70	70
76	48	52	55	60	60	65	70	70
77	48	52	55	60	60	65	70	70
78	48	52	55	60	60	65	70	100
79	48	52	55	60	60	65	100	100
80	48	52	55	60	60	100	100	100
81	48	52	55	60	100	100	100	100
82	48	52	55	100	100	100	100	100
83	48	52	100	100	100	100	100	100
84	48	100	100	100	100	100	100	100
85+	100	100	100	100	100	100	100	100

2747.0060   VALUATION OF LIFE INSURANCE POLICIES 478

ISSUE AGE	DURATION							
	9	10	11	12	13	14	15	16
0– 15	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100
17	100	100	100	100	100	100	100	100
18	92	92	92	92	93	93	96	97
19	79	81	81	82	82	82	85	88
20	69	70	71	71	71	71	74	79
21	67	70	70	70	70	71	71	77
22	65	68	68	68	68	69	71	77
23	64	65	65	67	67	69	70	76
24	61	64	64	64	66	67	70	76
25	60	63	62	63	64	67	69	75
26	61	62	63	64	66	69	66	73
27	60	63	63	64	67	66	67	74
28	62	63	64	66	65	66	68	74
29	62	64	64	62	66	67	70	76
30	63	64	62	63	67	68	71	77
31	64	62	63	66	68	70	72	78
32	62	63	66	67	70	72	73	78
33	65	66	67	70	72	73	75	80
34	66	67	70	71	73	75	76	81
35	67	68	71	73	74	76	76	81
36	67	68	70	72	74	76	77	82
37	67	68	70	72	74	76	76	81
38	67	69	69	73	75	76	77	82
39	66	68	69	72	74	76	76	81
40	66	68	68	71	75	76	77	82
41	64	66	68	70	74	76	77	82
42	63	64	66	69	72	75	77	82
43	62	64	66	67	72	74	77	82
44	61	62	64	67	71	74	77	82
45	59	60	63	66	71	74	77	82
46	59	60	63	67	71	74	75	80
47	59	60	65	68	71	·74	75	80
48	57	61	65	68	72	73	74	79
49	57	61	66	69	72	73	74	79
50	57	61	66	71	72	73	75	80
51	57	61	66	71	72	73	75	80
52	57	61	66	71	72	74	75	80
53	57	61	67	71	74	75	76	81
54	57	61	67	72	74	75	76	81
55	57	61	68	72	74	75	78	100
56	56	61	67	70	73	74	100	100
57	56	59	66	69	72	100	100	100
58	56	59	64	67	100	100	100	100
59	55	58	63	100	100	100	100	100
60	53	57	100	100	100	100	100	100

ISSUE AGE	DURATION			
	17	18	19	20+
61	53	75	100	100
62	75	75	100	100
63	75	75	100	100
64	75	75	100	100
65	70	70	100	100
66	70	70	100	100
67	70	70	100	100
68	70	70	100	100
69	70	70	100	100
70	70	70	100	100
71	70	70	100	100
72	70	70	100	100
73	70	70	100	100
74	70	70	100	100
75	70	70	100	100
76	70	100	100	100
77	70	100	100	100
78	70	100	100	100
79	70	100	100	100
80	70	100	100	100
81	100	100	100	100
82	100	100	100	100
83	100	100	100	100
84	100	100	100	100
85+	100	100	100	100
0–15	100	100	100	100
16	100	100	100	100
17	100	100	100	100
18	98	98	99	100
19	91	94	97	100
20	84	90	95	100
21	83	88	94	100
22	83	88	94	100
23	82	88	94	100
24	82	88	94	100
25	81	88	94	100
26	80	86	93	100
27	80	87	93	100
28	81	87	94	100
29	82	88	94	100
30	83	88	94	100
31	83	89	94	100
32	84	89	95	100
33	85	90	95	100
34	86	90	95	100
35	86	90	95	100

MINNESOTA RULES 2007

Age					
36	86	91	95	100	
37	86	90	95	100	
38	86	91	95	100	
39	86	90	95	100	
40	86	91	95	100	
41	86	91	95	100	
42	86	91	95	100	
43	86	91	95	100	
44	86	91	95	100	
45	86	91	95	100	100
46	85	90	95	100	100
47	85	90	95	100	100
48	84	90	95	100	100
49	84	90	95	100	100
50	85	90	95	100	100
51	85	90	95	100	100
52	85	90	100	100	100
53	86	100	100	100	100
54	100	100	100	100	100
55	100	100	100	100	100
56	100	100	100	100	100
57	100	100	100	100	100
58	100	100	100	100	100
59	100	100	100	100	100
60	100	100	100	100	100
61	100	100	100	100	100
62	100	100	100	100	100
63	100	100	100	100	100
64	100	100	100	100	100
65	100	100	100	100	100
66	100	100	100	100	100
67	100	100	100	100	100
68	100	100	100	100	100
69	100	100	100	100	100
70	100	100	100	100	100
71	100	100	100	100	100
72	100	100	100	100	100
73	100	100	100	100	100
74	100	100	100	100	100
75	100	100	100	100	100
76	100	100	100	100	100
77	100	100	100	100	100
78	100	100	100	100	100
79	100	100	100	100	100
80	100	100	100	100	100
81	100	100	100	100	100
82	100	100	100	100	100
83	100	100	100	100	100
84	100	100	100	100	100
85+	100	100	100	100	100

Subp. 3. **Male, nonsmoker.**

ISSUE AGE	DURATION							
	1	2	3	4	5	6	7	8
0–15	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100
17	100	100	100	100	100	100	100	100
18	93	95	96	98	99	100	100	90
19	80	81	83	86	87	87	79	79
20	65	68	69	72	74	69	69	67
21	63	66	68	71	66	66	67	66
22	62	65	66	62	63	64	64	64
23	60	62	58	60	62	62	63	63
24	59	55	56	58	59	60	61	61
25	52	53	55	56	58	58	60	60
26	51	53	55	56	58	60	61	61
27	51	52	55	58	60	60	61	61
28	49	52	57	58	60	61	63	62
29	49	51	57	60	61	61	62	62
30	49	51	57	60	61	62	63	63
31	47	50	57	60	60	62	63	64
32	46	50	57	60	62	63	64	64
33	45	49	56	60	62	63	64	62
34	43	48	56	62	63	64	62	62
35	41	47	56	62	63	61	62	63
36	40	47	56	62	59	61	62	63
37	38	45	56	58	59	61	62	63
38	38	45	53	58	61	62	63	65
39	37	41	53	58	61	62	63	64
40	34	41	53	58	61	62	63	64
41	34	41	53	58	61	61	62	62
42	34	43	53	58	60	61	62	61
43	32	43	53	58	60	61	60	60
44	32	44	52	57	59	60	60	59
45	32	44	52	57	59	60	59	57
46	32	42	50	54	56	57	57	56
47	30	40	48	52	54	55	55	54
48	30	40	46	49	51	52	53	53
49	29	39	43	48	50	51	50	51
50	29	37	42	45	47	48	49	50
51	27	35	40	43	45	47	48	50
52	27	34	39	42	44	45	48	49
53	25	31	37	41	44	45	47	49
54	25	30	36	39	43	44	47	48
55	24	29	35	38	42	43	45	48
56	23	29	35	38	42	42	44	47
57	23	28	35	38	42	42	43	45
58	22	28	33	37	41	41	43	45
59	22	26	33	37	41	41	42	44

60	20	26	33	37	41	40	41	42
61	20	26	33	37	41	40	41	42
62	19	25	32	38	40	40	41	42
63	19	25	33	36	40	40	41	75
64	18	24	32	36	39	40	75	75
65	18	24	32	36	39	65	70	70
66	18	24	32	36	60	65	70	70
67	18	24	32	60	60	65	70	70
68	18	24	55	60	60	65	70	70
69	18	52	55	60	60	65	70	70
70	48	52	55	60	60	65	70	70
71	48	52	55	60	60	65	70	70
72	48	52	55	60	60	65	70	70
73	48	52	55	60	60	65	70	70
74	48	52	55	60	60	65	70	70
75	48	52	55	60	60	65	70	70
76	48	52	55	60	60	65	70	70
77	48	52	55	60	60	65	70	70
78	48	52	55	60	60	65	70	100
79	48	52	55	60	60	65	100	100
80	48	52	55	60	60	100	100	100
81	48	52	55	60	100	100	100	100
82	48	52	55	100	100	100	100	100
83	48	52	100	100	100	100	100	100
84	48	100	100	100	100	100	100	100
85+	100	100	100	100	100	100	100	100

ISSUE AGE	DURATION							
	9	10	11	12	13	14	15	16
0–15	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100
17	100	100	100	100	100	100	100	100
18	92	92	92	92	95	95	96	97
19	79	81	81	82	83	83	86	89
20	69	70	71	71	72	72	75	80
21	67	70	70	70	71	71	73	78
22	67	68	68	68	70	70	73	78
23	64	67	68	68	67	69	71	77
24	63	65	67	66	66	69	71	77
25	61	64	64	64	64	67	70	76
26	61	63	64	64	66	69	67	74
27	62	63	64	66	67	66	67	74
28	62	64	66	66	63	66	68	74
29	63	64	66	63	65	67	68	74
30	63	64	62	63	66	68	70	76
31	64	62	63	65	67	70	71	77
32	62	63	65	66	68	71	72	78
33	63	65	66	68	71	73	74	79

34	65	66	67	70	72	74	74	79
35	66	67	68	70	72	74	75	80
36	66	67	68	70	72	74	75	80
37	66	67	67	69	71	73	74	79
38	65	67	68	70	72	74	73	78
39	65	67	68	70	71	73	73	78
40	64	66	67	69	71	73	72	78
41	63	65	65	67	69	71	71	77
42	61	63	64	66	67	69	71	77
43	60	60	62	64	66	68	69	75
44	59	58	60	62	65	67	69	75
45	57	57	59	61	63	66	68	74
46	55	56	59	61	63	65	67	74
47	54	55	59	61	62	63	66	73
48	54	55	57	61	62	63	63	70
49	53	54	57	61	61	62	62	70
50	51	54	57	61	61	61	61	69
51	51	53	57	60	61	61	62	70
52	50	53	56	60 .	60	62	62	70
53	50	51	56	59	61	61	62	70
54	49	51	55	59	59	61	62	70
55	49	50	56	58	59	61	62	100
56	48	50	55	57	58	59	100	100
57	47	49	53	55	56	100	100	100
58	45	47	51	53	100	100	100	100
59	44	46	50	100	100	100	100	100
60	42	45	100	100	100	100	100	100
61	42	75	100	100	100	100	100	100
62	75	75	100	100	100	100	100	100
63	75	75	100	100	100	100	100	100
64	75	75	100	100	100	100	100	100
65	70	70	100	100	100	100	100	100
66	70	70	100	100	100	100	100	100
67	70	70	100	100	100	100	100	100
68	70	70	100	100	100	100	100	100
69	70	70	100	100	100	100	100	100
70	70	70	100	100	100	100	100	100
71	70	70	100	100	100	100	100	100
72	70	70	100	100	100	100	100	100
73	70	70	100	100	100	100	100	100
74	70	70	100	100	100	100	100	100
75	70	70	100	100	100	100	100	100
76	70	100	100	100	100	100	100	100
77	100	100	100	100	100	100	100	100
78	100	100	100	100	100	100	100	100
79	100	100	100	100	100	100	100	100
80	100	100	100	100	100	100	100	100
81	100	100	100	100	100	100	100	100
82	100	100	100	100	100	100	100	100
83	100	100	100	100	100	100	100	100

| 84 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 85+ | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

ISSUE AGE	DURATION			
	17	18	19	20+
0–15	100	100	100	100
16	100	100	100	100
17	100	100	100	100
18	98	98	99	100
19	92	94	97	100
20	85	90	95	100
21	84	89	95	100
22	84	89	95	100
23	83	88	94	100
24	83	88	94	100
25	82	88	94	100
26	80	87	93	100
27	80	87	93	100
28	81	87	94	100
29	81	87	94	100
30	82	88	94	100
31	83	88	94	100
32	83	89	94	100
33	84	90	95	100
34	84	90	95	100
35	85	90	95	100
36	85	90	95	100
37	84	90	95	100
38	84	89	95	100
39	84	89	95	100
40	83	89	94	100
41	83	88	94	100
42	83	88	94	100
43	81	88	94	100
44	81	88	94	100
45	81	87	94	100
46	80	87	93	100
47	80	86	93	100
48	78	85	93	100
49	77	85	92	100
50	77	84	92	100
51	77	85	92	100
52	77	85	100	100
53	77	100	100	100
54	100	100	100	100
55	100	100	100	100
56	100	100	100	100
57	100	100	100	100

58	100	100	100	100
59	100	100	100	100
60	100	100	100	100
61	100	100	100	100
62	100	100	100	100
63	100	100	100	100
64	100	100	100	100
65	100	100	100	100
66	100	100	100	100
67	100	100	100	100
68	100	100	100	100
69	100	100	100	100
70	100	100	100	100
71	100	100	100	100
72	100	100	100	100
73	100	100	100	100
74	100	100	100	100
75	100	100	100	100
76	100	100	100	100
77	100	100	100	100
78	100	100	100	100
79	100	100	100	100
80	100	100	100	100
81	100	100	100	100
82	100	100	100	100
83	100	100	100	100
84	100	100	100	100
85+	100	100	100	100

Subp. 4. **Male, smoker.**

ISSUE AGE	DURATION							
	1	2	3	4	5	6	7	8
0–15	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100
17	100	100	100	100	100	100	100	100
18	100	100	100	100	100	100	100	100
19	100	100	100	100	100	100	100	100
20	98	100	100	100	100	100	100	99
21	95	98	99	100	95	96	96	95
22	92	95	96	90	90	93	93	92
23	90	92	85	88	88	89	89	89
24	87	81	82	85	84	86	88	86
25	77	78	79	82	81	83	83	82
26	75	77	79	82	82	83	83	82
27	73	75	78	82	82	83	83	82
28	71	73	79	82	81	82	83	81
29	69	72	78	81	81	82	82	81
30	68	71	78	81	81	81	82	81

31	65	70	77	81	79	81	82	81
32	63	67	77	78	79	81	81	81
33	60	65	74	78	79	79	81	76
34	57	62	74	77	79	79	75	76
35	53	60	73	77	79	75	75	76
36	52	59	71	75	74	75	75	76
37	49	58	70	71	74	74	75	76
38	48	55	66	70	72	74	74	75
39	45	50	65	70	72	72	74	74
40	41	49	63	68	71	72	73	74
41	40	49	63	68	71	72	72	72
42	40	49	62	68	70	71	71	71
43	39	50	62	67	69	69	70	70
44	39	50	60	66	68	69	68	69
45	37	50	60	66	68	68	68	67
46	37	48	58	63	65	67	66	66
47	36	47	55	61	63	64	64	64
48	35	46	53	58	60	62	63	63
49	34	45	51	56	58	59	61	62
50	34	43	49	53	55	57	60	61
51	32	42	47	52	55	57	60	61
52	32	40	46	50	54	56	60	61
53	30	37	44	49	54	56	59	61
54	30	36	43	48	53	55	59	61
55	29	35	42	47	53	55	59	61
56	28	35	42	47	53	55	57	60
57	28	35	42	47	53	54	57	60
58	26	33	43	48	54	54	56	59
59	26	33	43	48	54	53	57	59
60	25	33	43	48	54	53	56	58
61	25	33	43	49	55	55	57	59
62	25	33	43	50	56	56	58	61
63	24	33	45	51	56	56	59	75
64	24	34	45	51	57	57	75	75
65	24	34	45	52	57	65	70	70
66	24	35	45	53	60	65	70	70
67	25	35	45	60	60	65	70	70
68	25	36	55	60	60	65	70	70
69	27	52	55	60	60	65	70	70
70	48	52	55	60	60	65	70	70
71	48	52	55	60	60	65	70	70
72	48	52	55	60	60	65	70	70
73	48	52	55	60	60	65	70	70
74	48	52	55	60	60	65	70	70
75	48	52	55	60	60	65	70	70
76	48	52	55	60	60	65	70	70
77	48	52	55	60	60	65	70	70
78	48	52	55	60	60	65	70	100
79	48	52	55	60	60	65	100	100
80	48	52	55	60	60	100	100	100

81	48	52	55	60	100	100	100	100
82	48	52	55	100	100	100	100	100
83	48	52	100	100	100	100	100	100
84	48	100	100	100	100	100	100	100
85+	100	100	100	100	100	100	100	100

ISSUE AGE	DURATION							
	9	10	11	12	13	14	15	16
0–15	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100
17	100	100	100	100	100	100	100	100
18	100	100	100	100	100	100	100	100
19	100	100	100	100	100	100	100	100
20	99	99	100	99	99	99	100	100
21	96	97	97	96	96	96	96	97
22	93	95	95	93	93	92	93	94
23	90	90	90	90	89	90	92	94
24	86	88	88	86	86	88	89	91
25	83	85	84	84	84	85	86	89
26	83	84	84	84	84	85	81	85
27	82	82	82	84	84	80	81	85
28	81	82	82	82	80	80	81	85
29	81	81	81	77	80	80	81	85
30	81	81	76	77	80	80	81	85
31	81	76	77	79	81	81	83	86
32	76	77	77	80	83	83	85	88
33	77	77	79	80	83	85	85	88
34	77	79	79	81	83	85	87	90
35	77	79	80	82	84	86	88	90
36	77	79	79	81	83	85	87	90
37	77	78	79	81	84	86	86	89
38	76	78	79	81	83	85	87	90
39	75	77	79	81	84	86	86	89
40	74	76	78	80	83	85	86	89
41	73	75	76	78	81	84	85	88
42	71	73	75	76	81	83	85	88
43	70	71	73	76	79	83	85	88
44	69	69	71	74	79	81	85	88
45	67	67	69	73	78	81	85	88
46	66	67	71	74	78	81	84	87
47	65	67	71	75	79	81	84	87
48	65	67	72	75	79	81	83	86
49	63	67	72	77	80	81	83	86
50	63	67	73	78	80	81	81	85
51	63	67	73	78	80	83	84	87
52	63	67	73	78	81	84	85	88
53	65	67	74	79	83	85	87	90
54	65	67	74	80	84	85	89	91

55	65	67	75	80	84	86	90	100
56	63	68	74	79	83	85	100	100
57	64	67	74	78	81	100	100	100
58	63	67	73	78	100	100	100	100
59	63	66	73	100	100	100	100	100
60	62	66	100	100	100	100	100	100
61	63	75	100	100	100	100	100	100
62	75	75	100	100	100	100	100	100
63	75	75	100	100	100	100	100	100
64	75	75	100	100	100	100	100	100
65	70	70	100	100	100	100	100	100
66	70	70	100	100	100	100	100	100
67	70	70	100	100	100	100	100	100
68	70	70	100	100	100	100	100	100
69	70	70	100	100	100	100	100	100
70	70	70	100	100	100	100	100	100
71	70	70	100	100	100	100	100	100
72	70	70	100	100	100	100	100	100
73	70	70	100	100	100	100	100	100
74	70	70	100	100	100	100	100	100
75	70	70	100	100	100	100	100	100
76	70	100	100	100	100	100	100	100
77	100	100	100	100	100	100	100	100
78	100	100	100	100	100	100	100	100
79	100	100	100	100	100	100	100	100
80	100	100	100	100	100	100	100	100
81	100	100	100	100	100	100	100	100
82	100	100	100	100	100	100	100	100
83	100	100	100	100	100	100	100	100
84	100	100	100	100	100	100	100	100
85+	100	100	100	100	100	100	100	100

ISSUE AGE	DURATION			
	17	18	19	20+
0–15	100	100	100	100
16	100	100	100	100
17	100	100	100	100
18	100	100	100	100
19	100	100	100	100
20	100	100	100	100
21	98	98	99	100
22	96	97	99	100
23	95	97	98	100
24	93	96	98	100
25	92	94	97	100
26	89	92	96	100
27	89	92	96	100
28	89	92	96	100

29	89	92	96	100
30	89	92	96	100
31	90	93	97	100
32	91	94	97	100
33	91	94	97	100
34	92	95	97	100
35	93	95	98	100
36	92	95	97	100
37	92	94	97	100
38	92	95	97	100
39	92	94	97	100
40	92	94	97	100
41	91	94	97	100
42	91	94	97	100
43	91	94	97	100
44	91	94	97	100
45	91	94	97	100
46	90	94	97	100
47	90	94	97	100
48	90	93	97	100
49	90	93	97	100
50	89	92	96	100
51	90	94	97	100
52	91	94	100	100
53	92	100	100	100
54	100	100	100	100
55	100	100	100	100
56	100	100	100	100
57	100	100	100	100
58	100	100	100	100
59	100	100	100	100
60	100	100	100	100
61	100	100	100	100
62	100	100	100	100
63	100	100	100	100
64	100	100	100	100
65	100	100	100	100
66	100	100	100	100
67	100	100	100	100
68	100	100	100	100
69	100	100	100	100
70	100	100	100	100
71	100	100	100	100
72	100	100	100	100
73	100	100	100	100
74	100	100	100	100
75	100	100	100	100
76	100	100	100	100
77	100	100	100	100
78	100	100	100	100

79	100	100	100	100
80	100	100	100	100
81	100	100	100	100
82	100	100	100	100
83	100	100	100	100
84	100	100	100	100
85+	100	100	100	100

Subp. 5. **Female, aggregate.**

ISSUE AGE	DURATION							
	1	2	3	4	5	6	7	8
0–15	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100
17	99	100	100	100	100	100	100	100
18	83	83	84	84	84	84	86	78
19	65	66	68	68	68	68	63	63
20	48	50	51	51	51	47	48	48
21	47	48	50	51	47	47	48	49
22	44	47	48	45	47	47	48	49
23	42	45	44	45	47	47	49	51
24	39	40	42	44	47	47	50	51
25	34	38	41	44	47	47	50	53
26	34	38	41	45	49	49	51	56
27	34	38	41	47	50	51	54	57
28	34	37	43	47	53	53	56	59
29	34	38	43	49	54	56	58	60
30	35	38	43	50	56	56	59	63
31	35	38	43	51	56	58	60	64
32	35	39	45	51	56	59	63	66
33	36	39	44	52	58	62	64	65
34	36	40	45	52	58	63	63	66
35	36	40	45	53	59	61	65	67
36	36	40	45	53	55	62	65	67
37	36	41	47	52	57	62	65	67
38	34	41	44	52	57	63	66	68
39	34	40	45	53	58	63	66	68
40	32	40	45	53	58	65	65	67
41	32	40	45	53	57	63	64	67
42	32	40	45	52	56	61	63	65
43	31	39	45	51	55	59	61	65
44	31	39	45	50	54	58	61	63
45	31	38	44	49	53	56	59	62
46	29	37	43	48	51	54	59	62
47	28	35	41	46	49	54	57	61
48	28	35	41	44	49	52	57	61
49	26	34	39	43	47	52	55	61
50	25	32	38	41	46	50	55	61

51	25	32	38	41	45	50	55	61
52	23	30	36	41	45	51	56	61
53	23	30	36	41	47	51	56	61
54	22	29	35	41	47	53	57	61
55	22	29	35	41	47	53	57	61
56	22	29	35	41	45	51	56	59
57	22	29	35	41	45	50	54	56
58	22	30	36	41	44	49	53	56
59	22	30	36	41	44	48	51	53
60	22	30	36	41	43	47	50	51
61	22	29	35	39	42	46	49	50
62	20	28	33	39	41	45	47	49
63	20	28	33	38	41	44	46	80
64	19	27	32	36	40	42	80	80
65	19	25	30	35	39	72	75	75
66	19	25	30	35	72	72	75	75
67	19	25	30	72	72	72	75	75
68	19	25	68	72	72	72	75	75
69	19	64	68	72	72	72	75	75
70	60	60	64	68	68	72	75	75
71	60	60	64	68	68	72	75	75
72	60	60	64	68	68	72	75	75
73	60	60	64	68	68	72	75	75
74	60	60	64	68	68	72	75	75
75	60	60	64	68	68	72	75	75
76	60	60	64	68	68	72	75	75
77	60	60	64	68	68	72	75	75
78	60	60	64	68	68	72	75	100
79	60	60	64	68	68	72	100	100
80	60	60	64	68	68	100	100	100
81	60	60	64	68	100	100	100	100
82	60	60	64	100	100	100	100	100
83	60	60	100	100	100	100	100	100
84	60	100	100	100	100	100	100	100
85+	100	100	100	100	100	100	100	100

ISSUE AGE				DURATION				
	9	10	11	12	13	14	15	16
0–15	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100
17	93	95	96	97	97	100	100	100
18	78	79	82	84	85	88	88	90
19	64	66	69	71	72	74	75	80
20	49	51	56	57	58	61	63	70
21	51	53	57	60	61	64	64	71
22	53	54	60	61	63	64	66	73
23	53	54	61	64	64	67	69	75
24	54	56	64	64	66	69	70	76
25	56	57	64	67	69	71	73	78

26	58	59	66	69	70	73	70	76
27	59	60	69	70	73	70	71	77
28	62	63	70	73	70	72	74	79
29	63	64	73	70	72	74	75	80
30	66	67	70	71	74	75	76	81
31	67	65	71	72	74	75	76	81
32	65	66	72	72	75	76	76	81
33	66	67	72	74	75	76	76	81
34	67	68	74	74	76	76	76	81
35	68	70	75	74	75	76	75	80
36	68	70	74	74	74	75	75	80
37	68	69	72	72	73	75	74	79
38	69	70	72	71	72	74	75	80
39	69	69	70	70	70	73	74	79
40	68	69	70	69	70	73	73	78
41	68	68	69	69	69	73	74	79
42	66	68	69	68	70	74	75	80
43	65	66	68	69	69	74	77	82
44	64	66	67	68	71	75	78	82
45	63	65	67	68	71	77	79	83
46	63	65	67	69	71	77	78	82
47	62	66	68	69	71	77	77	82
48	63	66	68	71	72	75	77	82
49	63	67	69	71	72	75	75	80
50	63	67	69	72	72	75	74	79
51	63	66	68	69	71	74	74	79
52	62	65	66	68	68	73	73	78
53	62	63	65	66	68	72	72	78
54	61	62	62	66	66	69	70	76
55	61	61	62	63	64	68	69	100
56	60	61	62	63	64	67	100	100
57	58	59	61	62	63	100	100	100
58	57	57	61	62	100	100	100	100
59	55	56	59	100	100	100	100	100
60	53	55	100	100	100	100	100	100
61	52	80	100	100	100	100	100	100
62	80	80	100	100	100	100	100	100
63	80	80	100	100	100	100	100	100
64	80	80	100	100	100	100	100	100
65	80	80	100	100	100	100	100	100
66	80	80	100	100	100	100	100	100
67	80	80	100	100	100	100	100	100
68	80	80	100	100	100	100	100	100
69	80	80	100	100	100	100	100	100
70	80	80	100	100	100	100	100	100
71	80	80	100	100	100	100	100	100
72	80	80	100	100	100	100	100	100
73	80	80	100	100	100	100	100	100
74	80	80	100	100	100	100	100	100
75	80	80	100	100	100	100	100	100

76	80	100	100	100	100	100	100	100
77	100	100	100	100	100	100	100	100
78	100	100	100	100	100	100	100	100
79	100	100	100	100	100	100	100	100
80	100	100	100	100	100	100	100	100
81	100	100	100	100	100	100	100	100
82	100	100	100	100	100	100	100	100
83	100	100	100	100	100	100	100	100
84	100	100	100	100	100	100	100	100
85+	100	100	100	100	100	100	100	100

ISSUE AGE	DURATION			
	17	18	19	20+
0–15	100	100	100	100
16	100	100	100	100
17	100	100	100	100
18	93	95	98	100
19	85	90	95	100
20	78	85	93	100
21	78	86	93	100
22	80	86	93	100
23	81	88	94	100
24	82	88	94	100
25	84	89	95	100
26	82	88	94	100
27	83	88	94	100
28	84	90	95	100
29	85	90	95	100
30	86	90	95	100
31	86	90	95	100
32	86	90	95	100
33	86	90	95	100
34	86	90	95	100
35	85	90	95	100
36	85	90	95	100
37	84	90	95	100
38	85	90	95	100
39	84	90	95	100
40	84	89	95	100
41	84	90	95	100
42	85	90	95	100
43	86	91	95	100
44	87	91	96	100
45	87	92	96	100
46	87	91	96	100
47	86	91	95	100
48	86	91	95	100
49	85	90	95	100

50	84	90	95	100
51	84	90	95	100
52	84	89	100	100
53	83	100	100	100
54	100	100	100	100
55	100	100	100	100
56	100	100	100	100
57	100	100	100	100
58	100	100	100	100
59	100	100	100	100
60	100	100	100	100
61	100	100	100	100
62	100	100	100	100
63	100	100	100	100
64	100	100	100	100
65	100	100	100	100
66	100	100	100	100
67	100	100	100	100
68	100	100	100	100
69	100	100	100	100
70	100	100	100	100
71	100	100	100	100
72	100	100	100	100
73	100	100	100	100
74	100	100	100	100
75	100	100	100	100
76	100	100	100	100
77	100	100	100	100
78	100	100	100	100
79	100	100	100	100
80	100	100	100	100
81	100	100	100	100
82	100	100	100	100
83	100	100	100	100
84	100	100	100	100
85+	100	100	100	100

Subp. 6. **Female, nonsmoker.**

ISSUE AGE				DURATION				
	1	2	3	4	5	6	7	8
0–15	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100
17	96	98	98	98	98	99	99	99
18	78	80	80	80	80	81	81	74
19	60	62	63	63	63	65	59	59
20	42	44	45	45	45	42	42	42
21	41	42	44	45	41	42	42	44

22	39	41	44	41	41	42	44	45
23	38	41	38	40	41	42	44	46
24	36	36	38	40	41	42	46	47
25	32	34	37	40	41	43	46	49
26	32	34	37	41	43	45	47	50
27	32	34	38	43	46	47	49	51
28	30	34	39	43	47	49	51	53
29	30	35	40	45	50	51	52	55
30	31	35	40	46	51	52	53	56
31	31	35	40	46	51	53	55	58
32	32	35	40	45	51	53	56	59
33	32	36	41	47	52	55	58	55
34	33	36	41	47	52	55	55	57
35	33	36	41	47	52	53	57	58
36	33	36	41	47	49	53	57	58
37	32	36	41	44	49	53	57	58
38	32	37	39	45	50	54	57	58
39	30	35	39	45	50	54	57	58
40	28	35	39	45	50	54	56	57
41	28	35	39	45	49	52	55	55
42	27	35	39	44	49	52	54	55
43	27	34	39	44	47	50	53	53
44	26	34	38	42	47	50	52	53
45	26	33	38	42	45	48	51	51
46	24	32	37	40	43	47	49	51
47	24	30	35	39	42	45	47	49
48	23	30	35	37	40	44	47	49
49	23	29	33	35	39	42	45	48
50	21	27	32	34	37	41	44	48
51	21	26	30	34	37	41	44	48
52	20	25	30	33	37	41	44	47
53	19	24	29	32	37	41	43	47
54	18	24	29	32	37	41	43	45
55	18	23	28	32	37	41	43	45
56	18	23	28	32	36	39	42	44
57	18	23	28	31	35	38	41	42
58	17	23	26	31	35	36	38	41
59	17	23	26	30	33	35	38	39
60	17	23	26	30	32	34	36	38
61	17	22	25	29	32	33	35	36
62	16	22	25	28	30	32	34	35
63	16	20	24	28	30	32	34	80
64	14	21	24	27	29	30	80	80
65	15	19	23	25	28	72	75	75
66	15	19	23	25	72	72	75	75
67	15	19	22	72	72	72	75	75
68	13	18	68	72	72	72	75	75
69	13	64	68	72	72	72	75	75
70	60	60	64	68	68	72	75	75
71	60	60	64	68	68	72	75	75

72	60	60	64	68	68	72	75	75
73	60	60	64	68	68	72	75	75
74	60	60	64	68	68	72	75	75
75	60	60	64	68	68	72	75	75
76	60	60	64	68	68	72	75	75
77	60	60	64	68	68	72	75	75
78	60	60	64	68	68	72	75	100
79	60	60	64	68	68	72	100	100
80	60	60	64	68	68	100	100	100
81	60	60	64	68	100	100	100	100
82	60	60	64	100	100	100	100	100
83	60	60	100	100	100	100	100	100
84	60	100	100	100	100	100	100	100
85+	100	100	100	100	100	100	100	100

ISSUE AGE				DURATION				
	9	10	11	12	13	14	15	16
0–15	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100
17	92	92	93	95	95	97	99	99
18	75	75	78	79	82	83	85	88
19	60	60	64	67	67	70	72	78
20	45	45	50	51	53	56	58	66
21	47	47	51	53	54	57	59	67
22	49	49	54	56	57	58	60	68
23	49	50	56	57	58	60	62	70
24	50	51	58	59	60	62	63	70
25	51	53	59	60	62	63	64	71
26	53	53	60	62	63	64	62	70
27	53	55	62	63	64	62	62	70
28	56	58	63	63	61	62	63	70
29	58	59	64	61	62	63	63	70
30	59	60	62	62	63	65	65	72
31	60	58	62	62	63	65	65	72
32	57	58	62	63	63	65	64	71
33	58	59	63	63	65	65	65	72
34	58	59	63	65	64	65	64	71
35	59	61	63	64	64	64	64	71
36	59	61	63	64	63	64	63	70
37	59	60	62	62	61	62	63	70
38	60	60	61	61	61	62	61	69
39	60	59	60	60	59	60	61	69
40	59	59	60	59	59	59	60	68
41	58	57	58	59	58	59	60	68
42	56	57	57	57	58	60	61	69
43	55	55	56	57	56	60	61	69
44	54	55	55	55	56	61	62	70
45	52	53	54	55	56	61	62	70

46	52	53	54	55	56	60	61	69
47	51	53	54	55	56	59	60	68
48	50	53	54	55	55	59	57	66
49	50	53	54	55	55	57	56	65
50	50	53	54	55	55	56	55	64
51	49	51	53	53	54	55	55	64
52	48	50	50	51	51	55	53	62
53	48	48	49	49	51	52	52	62
54	47	47	47	49	49	51	51	61
55	45	45	46	46	47	50	50	100
56	44	45	46	46	46	49	100	100
57	44	44	45	45	46	100	100	100
58	41	42	45	45	100	100	100	100
59	40	41	44	100	100	100	100	100
60	39	40	100	100	100	100	100	100
61	38	80	100	100	100	100	100	100
62	80	80	100	100	100	100	100	100
63	80	80	100	100	100	100	100	100
64	80	80	100	100	100	100	100	100
65	80	80	100	100	100	100	100	100
66	80	80	100	100	100	100	100	100
67	80	80	100	100	100	100	100	100
68	80	80	100	100	100	100	100	100
69	80	80	100	100	100	100	100	100
70	80	80	100	100	100	100	100	100
71	80	80	100	100	100	100	100	100
72	80	80	100	100	100	100	100	100
73	80	80	100	100	100	100	100	100
74	80	80	100	100	100	100	100	100
75	80	80	100	100	100	100	100	100
76	80	100	100	100	100	100	100	100
77	100	100	100	100	100	100	100	100
78	100	100	100	100	100	100	100	100
79	100	100	100	100	100	100	100	100
80	100	100	100	100	100	100	100	100
81	100	100	100	100	100	100	100	100
82	100	100	100	100	100	100	100	100
83	100	100	100	100	100	100	100	100
84	100	100	100	100	100	100	100	100
85+	100	100	100	100	100	100	100	100

ISSUE AGE	DURATION			
	17	18	19	20+
0–15	100	100	100	100
16	100	100	100	100
17	99	100	100	100
18	91	94	97	100
19	83	89	94	100
20	75	83	92	100

21	75	84	92	100
22	76	84	92	100
23	77	85	92	100
24	78	85	93	100
25	78	86	93	100
26	77	85	92	100
27	77	85	92	100
28	78	85	93	100
29	78	85	93	100
30	79	86	93	100
31	79	86	93	100
32	78	86	93	100
33	79	86	93	100
34	78	86	93	100
35	78	86	93	100
36	78	85	93	100
37	78	85	93	100
38	77	84	92	100
39	77	84	92	100
40	76	84	92	100
41	76	84	92	100
42	77	84	92	100
43	77	84	92	100
44	77	85	92	100
45	77	85	92	100
46	77	84	92	100
47	76	84	92	100
48	74	83	91	100
49	74	82	91	100
50	73	82	91	100
51	73	82	91	100
52	72	81	100	100
53	71	100	100	100
54	100	100	100	100
55	100	100	100	100
56	100	100	100	100
57	100	100	100	100
58	100	100	100	100
59	100	100	100	100
60	100	100	100	100
61	100	100	100	100
62	100	100	100	100
63	100	100	100	100
64	100	100	100	100
65	100	100	100	100
66	100	100	100	100
67	100	100	100	100
68	100	100	100	100
69	100	100	100	100
70	100	100	100	100

71	100	100	100	100
72	100	100	100	100
73	100	100	100	100
74	100	100	100	100
75	100	100	100	100
76	100	100	100	100
77	100	100	100	100
78	100	100	100	100
79	100	100	100	100
80	100	100	100	100
81	100	100	100	100
82	100	100	100	100
83	100	100	100	100
84	100	100	100	100
85+	100	100	100	100

Subp. 7. **Female, smoker.**

ISSUE AGE	DURATION							
	1	2	3	4	5	6	7	8
0–15	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100
17	100	100	100	100	100	100	100	100
18	99	100	100	100	100	100	100	95
19	87	89	92	92	92	92	84	84
20	74	77	80	80	80	73	73	73
21	71	74	78	78	71	71	73	74
22	68	71	75	70	71	71	73	74
23	65	69	67	70	70	70	73	77
24	62	60	64	69	70	70	74	77
25	53	58	63	67	69	70	74	78
26	53	58	63	69	71	72	75	79
27	52	56	63	70	74	74	78	81
28	52	56	64	71	75	77	79	82
29	51	56	64	71	78	78	81	84
30	51	56	64	72	79	79	82	85
31	51	56	64	72	78	81	84	84
32	51	56	64	71	78	81	85	86
33	51	57	62	71	78	82	85	83
34	51	56	62	71	78	82	81	83
35	51	56	62	71	78	79	83	84
36	49	56	62	71	74	79	83	84
37	48	55	62	67	74	79	83	84
38	47	55	57	66	72	77	81	84
39	45	50	57	66	72	77	81	83
40	41	50	57	66	72	77	81	83
41	40	50	57	65	71	76	79	81
42	40	49	57	65	69	74	77	80

43	39	49	55	63	69	73	76	78
44	39	48	55	62	67	71	75	78
45	37	47	55	61	65	70	73	76
46	36	46	53	59	63	68	71	75
47	34	44	51	57	62	66	70	75
48	34	44	50	54	60	64	69	74
49	33	42	48	53	58	63	68	74
50	31	41	46	51	57	61	67	74
51	30	39	45	51	56	61	67	74
52	29	38	45	50	56	62	68	74
53	28	37	43	49	57	62	68	73
54	28	36	43	49	57	63	69	73
55	26	35	42	49	57	63	69	73
56	26	35	42	49	56	62	67	71
57	26	35	42	49	55	61	66	69
58	28	36	43	49	55	59	63	68
59	28	36	43	49	54	57	63	67
60	28	36	43	49	53	57	61	64
61	26	35	42	48	52	56	59	63
62	26	33	41	47	51	55	58	62
63	25	33	41	46	51	55	57	80
64	25	33	40	45	50	53	80	80
65	24	32	39	44	49	72	75	75
66	24	32	39	44	72	72	75	75
67	24	32	39	72	72	72	75	75
68	24	32	68	72	72	72	75	75
69	24	64	68	72	72	72	75	75
70	60	60	64	68	68	72	75	75
71	60	60	64	68	68	72	75	75
72	60	60	64	68	68	72	75	75
73	60	60	64	68	68	72	75	75
74	60	60	64	68	68	72	75	75
75	60	60	64	68	68	72	75	75
76	60	60	64	68	68	72	75	75
77	60	60	64	68	68	72	75	75
78	60	60	64	68	68	72	75	100
79	60	60	64	68	68	72	100	100
80	60	60	64	68	68	100	100	100
81	60	60	64	68	100	100	100	100
82	60	60	64	100	100	100	100	100
83	60	60	100	100	100	100	100	100
84	60	100	100	100	100	100	100	100
85+	100	100	100	100	100	100	100	100

ISSUE AGE	DURATION							
	9	10	11	12	13	14	15	16
0–15	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100

17	100	100	100	100	100	100	100	100
18	96	97	100	100	100	100	100	100
19	86	86	92	93	95	96	99	99
20	75	77	83	83	86	88	90	92
21	77	79	85	86	88	89	90	92
22	78	79	88	90	89	89	92	94
23	79	81	89	90	90	92	92	94
24	79	81	92	90	92	93	93	94
25	81	82	92	93	93	95	95	96
26	82	82	93	93	95	96	90	92
27	82	84	93	95	95	90	90	92
28	85	86	95	95	90	92	92	94
29	86	88	95	90	90	92	92	94
30	88	89	90	90	92	93	93	94
31	88	84	90	90	92	93	93	94
32	84	85	90	90	92	94	93	94
33	84	85	90	92	93	93	93	94
34	85	86	90	92	92	94	93	94
35	85	86	90	91	91	93	93	94
36	85	86	90	90	91	93	92	94
37	85	86	89	90	89	92	91	93
38	86	86	87	88	88	90	91	93
39	85	86	86	87	86	89	90	92
40	84	85	86	86	86	89	89	91
41	83	84	85	86	85	89	90	92
42	82	83	84	85	86	90	92	94
43	80	82	83	84	85	92	93	94
44	80	80	82	84	86	93	96	97
45	78	80	81	84	86	94	97	98
46	77	79	83	85	86	93	96	97
47	77	80	83	85	86	93	94	95
48	77	80	84	86	87	92	92	94
49	77	81	84	86	87	92	91	93
50	77	81	85	87	87	91	90	92
51	75	80	83	85	85	90	90	92
52	75	79	81	83	84	90	90	92
53	74	77	79	81	83	89	89	91
54	74	75	78	80	81	87	89	91
55	73	74	76	78	79	86	87	100
56	72	74	76	78	79	85	100	100
57	72	73	76	78	79	100	100	100
58	69	72	76	78	100	100	100	100
59	68	70	76	100	100	100	100	100
60	67	69	100	100	100	100	100	100
61	66	80	100	100	100	100	100	100
62	80	80	100	100	100	100	100	100
63	80	80	100	100	100	100	100	100
64	80	80	100	100	100	100	100	100
65	80	80	100	100	100	100	100	100
66	80	80	100	100	100	100	100	100

67	80	80	100	100	100	100	100	100
68	80	80	100	100	100	100	100	100
69	80	80	100	100	100	100	100	100
70	80	80	100	100	100	100	100	100
71	80	80	100	100	100	100	100	100
72	80	80	100	100	100	100	100	100
73	80	80	100	100	100	100	100	100
74	80	80	100	100	100	100	100	100
75	80	80	100	100	100	100	100	100
76	80	100	100	100	100	100	100	100
77	100	100	100	100	100	100	100	100
78	100	100	100	100	100	100	100	100
79	100	100	100	100	100	100	100	100
80	100	100	100	100	100	100	100	100
81	100	100	100	100	100	100	100	100
82	100	100	100	100	100	100	100	100
83	100	100	100	100	100	100	100	100
84	100	100	100	100	100	100	100	100
85+	100	100	100	100	100	100	100	100

ISSUE AGE	DURATION			
	17	18	19	20+
0–15	100	100	100	100
16	100	100	100	100
17	100	100	100	100
18	100	100	100	100
19	99	100	100	100
20	94	96	98	100
21	94	96	98	100
22	95	97	98	100
23	95	97	98	100
24	96	97	99	100
25	97	98	99	100
26	94	96	98	100
27	94	96	98	100
28	95	97	98	100
29	95	97	98	100
30	96	97	99	100
31	96	97	99	100
32	96	97	99	100
33	96	97	99	100
34	96	97	99	100
35	96	97	99	100
36	95	97	98	100
37	95	96	98	100
38	95	96	98	100
39	94	96	98	100
40	93	96	98	100

41	94	96	98	100
42	95	97	98	100
43	96	97	99	100
44	98	98	99	100
45	98	99	99	100
46	98	98	99	100
47	96	98	99	100
48	95	97	98	100
49	95	96	98	100
50	94	96	98	100
51	94	96	98	100
52	94	96	100	100
53	93	100	100	100
54	100	100	100	100
55	100	100	100	100
56	100	100	100	100
57	100	100	100	100
58	100	100	100	100
59	100	100	100	100
60	100	100	100	100
61	100	100	100	100
62	100	100	100	100
63	100	100	100	100
64	100	100	100	100
65	100	100	100	100
66	100	100	100	100
67	100	100	100	100
68	100	100	100	100
69	100	100	100	100
70	100	100	100	100
71	100	100	100	100
72	100	100	100	100
73	100	100	100	100
74	100	100	100	100
75	100	100	100	100
76	100	100	100	100
77	100	100	100	100
78	100	100	100	100
79	100	100	100	100
80	100	100	100	100
81	100	100	100	100
82	100	100	100	100
83	100	100	100	100
84	100	100	100	100
85+	100	100	100	100

Statutory Authority: *MS s 45.023; 61A.25*

History: *24 SR 800*

2747.0065 2001 CSO MORTALITY TABLE.

The 2001 CSO Mortality Table, as defined in part 2748.0010, subpart 2, shall be used for purposes of parts 2747.0010 to 2747.0060 pursuant to the requirements of parts 2748.0010 to 2748.0050.

Statutory Authority: *MS s 45.023; 61A.24; 61A.25*

History: *28 SR 1039*