# 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*

**Published Electronically:** *September 14, 2007*


**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:

$$x = \text{original issue age;}$$

$$k = \text{the number of years from the date of issue to the beginning of the segment;}$$

$t$ =          $1, 2, ...;$ $t$ 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*

**Published Electronically:** *September 14, 2007*

## 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 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;

(3) 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;

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

(5) the appointed actuary may decrease X at any valuation date as long as X continues to meet all the requirements of this item;

(6) 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

(7) 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 2711.0230;

(b) the appointed actuary shall disclose, in the Regulatory Asset Adequacy Issues Summary, the impact of the insufficiency of assets to support the payment of benefits and expenses and the establishment of statutory reserves during one or more interim periods; and

(c) 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 2711.0230.

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

**History:** *24 SR 800; 37 SR 1455; 38 SR 847*

**Published Electronically:** *December 16, 2013*

## 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*

**Published Electronically:** *September 14, 2007*

## 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*

**Published Electronically:** *September 14, 2007*

## 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 |

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 |

| 61 | 53 | 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

| ISSUE AGE | 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 | 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 |
| 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 |

| | | | | |
|---|---|---|---|---|
| 46 | 85 | 90 | 95 | 100 |
| 47 | 85 | 90 | 95 | 100 |
| 48 | 84 | 90 | 95 | 100 |
| 49 | 84 | 90 | 95 | 100 |
| 50 | 85 | 90 | 95 | 100 |
| 51 | 85 | 90 | 95 | 100 |
| 52 | 85 | 90 | 100 | 100 |
| 53 | 86 | 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. 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

| ISSUE AGE | 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

| ISSUE AGE | 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 | 9 | 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*

**Published Electronically:** *September 14, 2007*

## 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*

**Published Electronically:** *September 14, 2007*