



AMERICAN ACADEMY *of* ACTUARIES

Report of the American Academy of Actuaries' (Academy) Group Life Waiver of Premium Valuation Table Work Group (GTLWPWG)

**Presented to the National Association of Insurance Commissioners' (NAIC)
Life and Health Actuarial Task Force (LHATF)**

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Group Life Waiver of Premium Valuation Table Work Group

Shawn Loftus, Chair, FSA, MAAA

John Bettano, FSA, MAAA
Charlie DeWeese, FSA, MAAA
John Engelhardt, FSA, MAAA
Scott Fitzpatrick, FSA, MAAA
Scott Haglund, FSA, MAAA
Elizabeth Horvath, FSA, MAAA
Jack Luff, FSA, MAAA
Ted Lyle, FSA, MAAA

Jacob McCoy, FSA, MAAA
Steven Ostlund, FSA, MAAA
Susan Sames, FSA, MAAA
Randall Stevenson, ASA, MAAA
Jim Stockall, FSA, MAAA
Patrick Wallner, FSA, MAAA
Feng Zhao, FSA, MAAA

Background

Disabled life reserves for extended death benefits of the group life premium-waiver type, commonly referred to as waiver of premium claims, are significant liabilities on the balance sheets of group term life insurers. However, to date no formal guidance for valuing these liabilities exists. In the absence of any such guidance, many companies use the 1970 Intercompany Group Life Disability Valuation Table (1970 Table), or some modification of this table. This table, often referred to as the Krieger Table, has become the de-facto standard in the industry, although it was never formally recognized as a valuation standard by the NAIC, and is now outdated. As this table has become outdated, some states have begun to allow companies to use their actual experience to establish reserves.

In March 2006, the Society of Actuaries' Group Life Insurance Experience Committee (GLEC) released the results of a new study, which was intended to provide an update to the 1970 Table. As a result of this study, the GLEC produced the 2005 Group Term Life Waiver Reserve Table (2005 Table). In addition to providing more current information, the 2005 Table was constructed from gender-specific data totaling six times the number of life-years and 60 times the face amount used to produce the 1970 Table, which allowed the GLEC to produce sex distinct tables.

In March 2007, the Academy's Group Life Waiver of Premium Valuation Table Work Group (Academy Work Group) was formed in response to LHATF's request to review the 2005 Table and to make recommendations regarding the appropriate margins and use of the table. This report constitutes the Academy Work Group's recommendation.

Academy Work Group Recommendation

The recommendation is specified in detail in the last section of this report (i.e., GROUP TERM LIFE WAIVER OF PREMIUM DISABLED LIFE RESERVES). However, the Academy Work Group would like to draw special attention to several items.

Section 1: Authority

- Rule: The recommendation is presented in the form of a rule/regulation, but LHATF may choose to adopt a different format consistent with current NAIC guidance.
- Standard Valuation Law (SVL): The Academy Work Group believes the proposed guidance can be enabled without amending the SVL.

Section 2: Background and Purpose

- Minimum Standard: Section 4.G. of the SVL specifically allows the Commissioner to approve tables for the valuation of group life insurance and other special benefits. Section 4b of the SVL defines the appropriate interest rate for the valuation of life insurance. Regarding the broader calculation of group term life waiver of premium disabled life reserves, some variances in practice have developed over the years, so this recommendation provides additional guidance regarding the appropriate calculation of these reserves in accordance with Section 5.C. of the SVL (i.e., present value of death benefits instead of present value of future waived premiums).

Section 3: Definitions

- 2005 Tables (Attachments A-D): The GLEC report recommended a 25% margin on deaths and a 35% margin on recoveries. These margins are similar to those used in the 1970 Table (30% of mortality and 40% for recovery). Noting the absence of regulatory or technical guidance upon the purpose and role of margins relative to intercompany variation and internal company variance, the Academy Work Group supports the GLEC's recommended margins in light of the following considerations:
 - No additional margin is needed because the recommended margins adequately cover the exposures in the study. Specifically:

- The 25% margin for deaths covers 97% and 98% of the exposures in the select and ultimate periods, respectively.
 - The 35% margin for the recoveries covers 96% and 85% of the exposures in the select and ultimate periods, respectively.
- However, due to the small number of companies in the study, any meaningful reduction in margin would pull the percent of exposures covered down below 85%, which has been the traditional target coverage.
- If a company has experience that is significantly worse than the underlying experience used to produce the 2005 Tables, then specific provisions are included to allow the commissioner to require the company to compute reserves based on its experience with margins.
- If a company has sufficient experience, then specific provisions are included to permit the company to use its experience to compute reserves and margins.

Section 4: Reserve Calculation

- PV of DB: The method (i.e., present value of death benefits instead of present value of future waived premiums) is intended to be used regardless of the incurred date of disability. As noted in the following bullet points, mortality rates, recovery rates, and interest rates are to be applied prospectively. The retrospective nature of this provision stems from the Academy Work Group's belief that a reserving methodology based on the present value of future waived premiums is an erroneous interpretation of the provisions of the SVL.
- 2005 Table: Since changes to valuation standards are most commonly applied prospectively, this table is intended to be applied only to incurral dates after the effective date. However, in this case, since no prior standards exist, LHATF may consider an alternate approach.
- Maximum Interest Rate: The first Academy Work Group draft, which was submitted for the August 22, 2007 LHATF conference call, recommended using the single premium immediate annuity interest rate reduced by one hundred basis points (SPIA – 1%) rather than the life interest rate. In the course of this discussion, it was pointed out that the benefits in question are life insurance benefits, and are therefore already specified under the SVL. While there are theoretical pros and cons to selecting SPIA – 1% over the whole life interest rate, the Academy Work Group agrees that, barring a change to the SVL, the appropriate life insurance interest rate should be used. This interest rate is intended to be applied only to incurral dates after the effective date.

Section 5: Company Experience

- Company Experience: The Academy Work Group supports the use of company experience for both mortality and recovery rates within the constraints of the model. We have received a comment indicating that since the recovery rates act as a discount for the reserve, similar to the interest rate, changes in the recovery rates have a minimal effect on the level of the reserves produced. This comment was rescinded after the commenter studied the effect on valuation reserves of changes in the recovery rates. The commenter determined that while the effect was smaller than for changes in mortality rates, the effect was significant.
- Experience Review (5.A.): This review is the only mandatory component of Section 5. There is no small block exemption, but the level of review is left largely undefined.
- Commissioners' Option (5.B.): The intent of this provision is to define an intervention threshold regarding the relationship between company experience and the fully loaded industry experience. This is equivalent to the following thresholds for company experience versus the industry basic table: more than 112.50% for deaths ($125\% * 90\%$) and less than 81.25% for recoveries ($65\% * 125\%$). These thresholds represent about half of the margin built into the valuation tables, $(112.5\% - 100\%) = 12.5\%$ vs. $(125\% - 100\%) = 25\%$ for mortality and $(100\% - 81.25\%) = 18.75\%$ vs. $(100\% - 65\%) = 35\%$ for recovery.
- Company Experience (5.C.): Intended as an alternative to using the 2005 Table, this subsection allows the use of full company experience. The experience is to be loaded for at least

85% statistical confidence. This provision is intended to result in a margin that is more appropriate for an individual company instead of industry-wide experience.

- Commissioner (5.C.2. and 5.C.3.): In order to promote uniformity of regulation, the Academy Work Group recommendation refers to the domiciliary Commissioner for active permission. If there are jurisdictional concerns, the Academy Work Group recommends that additionally, a non-domiciliary commissioner grant passive permission (i.e., does not object to the domiciliary commissioner's written permission).
- Application of New Studies (5.C.4. and 5.D.2.): Unless otherwise exempted or required, new tables are applied to applicable claims incurred during or after the calendar year in which the study is performed. This provision allows new information to be included as soon as new experience studies are available. An alternate approach would be to apply new tables to applicable claims incurred during or after the calendar quarter in which the study is performed.
- Credibility Weighting (5.D.): Intended as an alternative to using the 2005 Table exclusively or company experience exclusively (5.C.), this sub-section allows a credibility weighted blend of company experience and the 2005 Table. Similar to 5.C., new blended experience tables are to be applied prospectively, unless otherwise exempted.
 - The credibility factor (Z) may be developed in aggregate or split.
 - The actual to expected ratio (F) must be split by gender and experience type.
 - If a company has unfavorable experience, Section 5.B. allows the commissioner to require the company to use its experience with prescribed margins. M should be set by LHATF, but the Academy Work Group recommends setting a level that provides a smooth transition between the 2005 Tables and company experience if $Z=1$.

GROUP TERM LIFE WAIVER OF PREMIUM DISABLED LIFE RESERVES

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Section 1. Authority

This rule is promulgated by the Commissioner of Insurance pursuant to Section [insert applicable reference to the Standard Valuation Law] of the [insert state] Insurance Statute.

Section 2. Background and Purpose

Group term life policies do not maintain contract reserves beyond the duration of the policy issued to the group policyholder. However, some policies guarantee an extended death benefit to an individual insured who is disabled according to the terms of the policy. Thus, to the extent such guarantees are made, a disabled life reserve must be maintained for each individual that is so disabled. However, prior to the creation of this rule, there has been no formal guidance regarding the calculation of these disabled life reserves.

The purpose of this rule is to determine the minimum standard of valuation for group term life waiver of premium disabled life benefits and to recognize the 2005 Group Term Life Waiver (GTLW) Mortality and Recovery Tables.

[Drafting Note: This approach is consistent with guidance provided in Appendix C of the NAIC Model Health Reserves Regulation. The Appendix explains that disability tables promulgated by the NAIC are based on lives "in force" rather than only "active." In the Appendix, the Regulation states that further consideration should be given to the liability when valuing reserves on only active lives. The implication is that the total present value of the death benefit should be recognized if a portion of that liability is not held in another contract reserve.]

Section 3. Definitions

"2005 GTLW Mortality Tables" means the mortality rate tables shown in Attachments A and B.

"2005 GTLW Recovery Tables" means the recovery rate tables shown in Attachments C and D.

"Appointed Actuary" means that person defined in Section [insert reference to SVL Appointed Actuary] of the [insert state] Insurance Statutes.

Section 4. Group Waiver of Premium Reserve Calculation

The minimum standard of valuation for group term life waiver of premium disabled life benefits shall be the present value of the death benefit payable discounted for interest and recovery. Since there is not a contract reserve based upon an aggregate table, the discounted value of waived premiums is inadequate to support this liability.

Except as provided in Section 5, the 2005 GTLW Mortality and Recovery Tables shall be used for determining the minimum standard of valuation for any group term life waiver of premium disabled life benefit incurred on or after [insert date on or after effective date of this rule].

The maximum interest rate shall be the maximum rate permitted by law in the valuation of life insurance of the same guarantee duration issued on the same date as the claim incurrual date of disability. This maximum interest rate shall be used for determining the minimum standard of valuation for any group term life waiver of premium disabled life benefit incurred on or after [insert date on or after effective date of this rule].

[Drafting Note: The valuation tables were derived from employer-employee group life experience. Other forms of group term life insurance are also subject to the same requirements if they contain similar extended death benefit provisions. Section 5. offers ways to modify the underlying rates of mortality or recovery if they differ from those associated with the underlying experience in the valuation tables.]

[Drafting Note: The guarantee duration used to determine the life insurance rate of interest is equal to the largest term in years between the point at which any individual in the group may become disabled and the point at which no death benefit is available. Thus, if a person could become disabled at age 20, remain disabled, and receive a benefit upon death before age 65, the guarantee duration would be 45 years.]

Section 5. Use of Company Experience

- A. The Appointed Actuary shall review company experience at least once every five years. Company experience shall:
1. Be segmented into policies with similar benefits, on individuals of each gender;
 2. Be experience-specific to the company;
 3. Include all relevant experience in the past three most recent years;
 4. Exclude experience that is not in the past six most recent years;
 5. Otherwise be relevant, in accordance with the professional judgment of the Appointed Actuary; and
 6. Not be deemed irrelevant by the Commissioner of Insurance.

[Drafting Note: A review of company experience can range from a detailed experience study to a high level analysis. The extent of the review depends upon the Appointed Actuary being able to defend any conclusion reached.]

- B. The Commissioner of Insurance may require a company to use its experience based upon the most recent review referenced in Section 5. A. and follow the process set out in section 5.C. or 5.D. to establish its specific valuation tables if:
1. Actual mortality experience is reasonably expected to be greater than 90% of the 2005 GTLW Mortality Tables; or
 2. Actual recovery experience is reasonably expected to be less than 125% of the 2005 GTLW Recovery Tables.

Under the above circumstances, the Commissioner of Insurance may require a company to use the process set out in section 5.D. and establish for the company a minimum value for Z.

- C. A company may use its experience exclusively without reference to the standard tabular mortality expected experience or to the standard tabular recovery expected experience to create its specific valuation tables if:
1. The Appointed Actuary can demonstrate and certify the following:
 - a) The company-specific valuation tables are based on company experience with allowances for graduation and margins for adverse experience;

- b) The company-specific mortality valuation tables used for computing minimum reserves for group term life waiver of premium benefits are such that there is at least an 85% statistical confidence that the actual annual aggregate mortality will be less than the mortality in the company-specific-mortality valuation tables; and
 - c) The company-specific recovery valuation tables used for computing minimum reserves for group term life waiver of premium benefits are such that there is at least an 85% statistical confidence that the actual annual aggregate recoveries will be greater than the recoveries in the company-specific recovery valuation tables.
 - 2. The company has written permission from the domiciliary Commissioner to use the company-specific valuation tables.
 - 3. The company has not been prohibited by the Commissioner of Insurance to use the company-specific valuation tables.
 - 4. Unless otherwise exempted or required, the specific valuation tables shall apply to the computation of minimum reserves for group term life waiver of premium disabled life benefits for claims incurred during or after the calendar year in which the study was performed.
- D. If not invoking Section 5.C., a company may use a credibility-weighted combination of company mortality experience with the 2005 GTLW Mortality Tables and/or of company recovery experience with the 2005 GTLW Recovery Tables to create its specific valuation tables.
- 1. The blended tables for each gender and type of experience (mortality and recovery) shall be computed using the formula $\text{Blended Table} = T \times S$ with $T = [(Z \times F \times M) + (1-Z)]$, where:
 - a) Z shall be a credibility weighting factor, between 0 and 1, developed by the appointed actuary using credibility theory methods not unacceptable to the Commissioner of Insurance;
 - b) F shall be the ratio of the company's actual experience to the expected experience for the 2005 GTLW Mortality and Recovery Tables for each gender and type of experience (mortality and recovery);
 - c) M shall be 1.12 for mortality tables and 0.80 for recovery tables;
 - d) S shall be the 2005 GTLW Mortality and Recovery Tables; and
 - e) T shall not be changed from the T produced in the immediate previous study if the difference is not at least 10%.

[Drafting Note: The values of 1.12 for mortality and 0.80 for recovery are the values that provide a smooth transition between the 2005 Tables and company experience if Z=1.]

[Drafting Note: The "difference" in T is determined only by the absolute difference from the previous T, not the percentage change in T. For example, if T changed from 80% to 89%, no change in T would be allowed since the absolute difference is 9%, even though the percentage change in T is greater than 10%.]

[Drafting Note: The Commissioner can bar use of Section 5. D. by finding that no credibility theory method is acceptable. Similarly, the Commissioner may dictate the value of Z used in the calculation as noted in 5. B..]

- 2. Unless otherwise exempted or required, the specific valuation tables shall apply to the computation of minimum reserves for group term life waiver of premium disabled life benefits for claims incurred during or after the calendar year in which the study was performed.

Section 6. Separability

If any provision of this rule or its application to any person or circumstances is for any reason held to be invalid, the remainder of the rule and the application of its provisions to other persons or circumstances shall not be affected.

Section 7. Effective Date

The effective date of this rule is [it is recommended that this rule be effective January 1, 200_].

ATTACHMENT A
2005 GTLW Mortality and Recovery Tables
Graduated Death Rates (1,000Q[X])
Select Period (duration 9 months to 10 years)

MALES

PROBABILITY OF DEATH (1,000Q[X]+T) - SELECT PERIOD

Central Age => Duration of Disability	17	22	27	32	37	42	47	52	57	62	67	72
1 (4th qtr.)	21.3	25.0	25.0	28.8	35.0	35.0	35.0	37.5	38.8	46.3	42.5	38.8
2 (1st qtr.)	26.3	28.8	30.0	36.3	37.5	37.5	37.5	37.5	37.5	37.5	33.8	30.0
2 (2nd qtr.)	27.5	30.0	30.0	37.5	35.0	35.0	33.8	33.8	33.8	33.8	32.5	28.8
2 (3rd qtr.)	31.3	33.8	33.8	33.8	26.3	26.3	27.5	27.5	28.8	28.8	28.8	25.0
2 (4th qtr.)	33.8	38.8	37.5	32.5	22.5	22.5	22.5	22.5	21.3	21.3	21.3	21.3
2 (annual)	107.2	117.9	119.2	128.2	112.6	113.6	114.0	114.7	114.9	115.2	110.7	100.5
3	37.5	56.3	68.8	70.0	71.3	72.5	73.8	75.0	81.3	83.8	86.3	91.3
4	22.5	32.5	60.0	60.0	61.3	62.5	62.5	62.5	68.8	71.3	73.8	77.5
5	15.0	22.5	41.3	48.8	50.0	51.3	52.5	52.5	56.3	58.8	65.0	68.8
6	15.0	22.5	37.5	41.3	42.5	43.8	45.0	46.3	52.5	53.8	68.8	76.3
7	15.0	22.5	27.5	31.3	32.5	33.8	35.0	37.5	48.8	52.5	71.3	78.8
8	15.0	22.5	25.0	28.8	31.3	32.5	33.8	36.3	55.0	57.5	77.5	85.0
9	15.0	22.5	22.5	23.8	28.8	31.3	33.8	40.0	56.3	60.0	81.3	93.8
10	15.0	22.5	18.8	21.3	23.8	27.5	33.8	42.5	56.3	62.5	87.5	101.3

FEMALES

PROBABILITY OF DEATH (1,000Q[X]+T) - SELECT PERIOD

Central Age => Duration of Disability	17	22	27	32	37	42	47	52	57	62	67	72
1 (4th qtr.)	12.5	15.0	20.0	21.3	22.5	26.3	31.3	33.8	36.3	40.0	37.5	35.0
2 (1st qtr.)	11.3	13.8	17.5	20.0	20.0	23.8	30.0	32.5	33.8	36.3	32.5	28.8
2 (2nd qtr.)	11.3	13.8	17.5	20.0	20.0	21.3	28.8	31.3	31.3	32.5	31.3	27.5
2 (3rd qtr.)	10.0	12.5	16.3	18.8	18.8	21.3	25.0	26.3	27.5	27.5	27.5	23.8
2 (4th qtr.)	10.0	11.3	15.0	16.3	16.3	17.5	20.0	21.3	20.0	20.0	20.0	20.0
2 (annual)	39.4	47.4	61.5	70.0	70.3	78.9	97.8	104.8	106.4	110.3	105.8	95.7
3	18.8	28.8	36.3	37.5	40.0	43.8	52.5	65.0	66.3	67.5	76.3	80.0
4	15.0	21.3	25.0	26.3	28.8	31.3	40.0	48.8	55.0	56.3	63.8	67.5
5	10.0	18.8	23.8	25.0	26.3	28.8	31.3	37.5	45.0	51.3	56.3	58.8
6	10.0	16.3	17.5	17.5	20.0	23.8	30.0	35.0	45.0	48.8	60.0	62.5
7	10.0	13.8	15.0	16.3	17.5	23.8	30.0	35.0	43.8	50.0	63.8	66.3
8	10.0	13.8	15.0	16.3	17.5	22.5	28.8	33.8	43.8	51.3	68.8	71.3
9	10.0	12.5	15.0	16.3	17.5	20.0	28.8	33.8	41.3	52.5	73.8	77.5
10	10.0	11.3	13.8	15.0	17.5	20.0	28.8	33.8	40.0	52.5	78.8	83.8

ATTACHMENT B
2005 GTLW Mortality and Recovery Tables
Graduated Death Rates (1,000Q[X])
Ultimate Period (11+ years)

Attained Age	Male	Female	Attained Age	Male	Female
27	12.5	10.0	64	50.0	37.5
28	12.5	10.0	65	52.5	38.8
29	12.5	10.0	66	55.0	40.0
30	13.8	11.3	67	56.3	40.0
31	13.8	11.3	68	58.8	42.5
32	13.8	11.3	69	60.0	45.0
33	13.8	11.3	70	63.8	47.5
34	13.8	11.3	71	65.0	50.0
35	15.0	12.5	72	66.3	52.5
36	15.0	12.5	73	72.5	57.5
37	15.0	12.5	74	77.5	62.5
38	15.0	12.5	75	82.5	67.5
39	16.3	13.8	76	87.5	73.8
40	17.5	13.8	77	92.5	78.8
41	18.8	15.0	78	95.0	80.0
42	18.8	15.0	79	98.8	81.3
43	18.8	15.0	80	100.0	82.5
44	20.0	16.3	81	103.8	83.8
45	20.0	17.5	82	107.5	83.8
46	21.3	17.5	83	113.8	88.8
47	21.3	18.8	84	121.3	93.8
48	22.5	18.8	85	128.8	98.8
49	23.8	18.8	86	136.3	105.0
50	25.0	20.0	87	143.8	111.3
51	26.3	20.0	88	152.5	117.5
52	27.5	20.0	89	161.3	123.8
53	30.0	22.5	90	171.3	131.3
54	31.3	23.8	91	182.5	140.0
55	32.5	25.0	92	195.0	150.0
56	35.0	27.5	93	210.0	161.3
57	36.3	28.8	94	227.5	175.0
58	38.8	30.0	95	248.8	191.3
59	41.3	31.3	96	280.0	215.0
60	42.5	31.3	97	335.0	257.5
61	43.8	32.5	98	448.8	345.0
62	46.3	33.8	99	1000.0	1000.0
63	48.8	35.0			

ATTACHMENT C
2005 GTLW Mortality and Recovery Tables
Graduated Recovery Rates (1,000Q[X])
Select Period (duration 9 months to 10 years)

MALES

PROBABILITY OF RECOVERY (1,000Q[X]+T) - SELECT PERIOD

Central Age => Duration of Disability	17	22	27	32	37	42	47	52	57	62	67	72
1 (4th qtr.)	39.7	39.7	32.5	26.7	25.4	19.5	15.0	9.8	7.8	5.2	3.9	3.3
2 (1st qtr.)	37.7	37.7	31.2	26.0	23.4	16.3	13.7	8.5	7.2	5.2	4.6	3.3
2 (2nd qtr.)	34.5	34.5	28.0	22.8	22.1	15.6	12.4	7.8	6.5	4.6	3.9	3.3
2 (3rd qtr.)	31.9	31.9	26.0	21.5	20.8	15.0	9.8	7.2	5.9	3.9	3.3	2.6
2 (4th qtr.)	28.0	28.0	23.4	19.5	18.9	14.3	8.5	6.5	4.6	3.3	2.6	2.0
2 (annual)	120.9	120.5	99.9	82.5	78.5	56.8	41.6	28.2	22.8	16.0	13.6	10.6
3	111.2	111.2	90.4	73.5	54.0	46.2	37.7	23.4	15.0	10.4	7.8	7.2
4	100.1	100.1	75.4	56.6	43.6	35.8	26.0	17.6	11.1	9.1	5.9	5.2
5	81.3	81.3	59.8	43.6	36.4	29.3	17.6	13.7	8.5	7.2	5.2	4.6
6	49.4	49.4	42.3	35.8	31.2	24.1	13.7	9.1	6.5	6.5	4.6	3.9
7	39.0	39.0	35.1	31.2	28.0	20.8	11.1	7.8	5.2	5.2	3.3	2.6
8	34.5	34.5	31.2	28.0	23.4	16.3	10.4	6.5	5.2	3.9	2.0	1.3
9	28.0	28.0	26.7	24.7	20.2	13.7	8.5	5.2	4.6	3.3	1.3	0.7
10	24.7	24.7	22.8	20.8	15.0	11.1	6.5	4.6	3.9	2.6	1.3	0.0

FEMALES

PROBABILITY OF RECOVERY (1,000Q[X]+T) - SELECT PERIOD

Central Age => Duration of Disability	17	22	27	32	37	42	47	52	57	62	67	72
1 (4th qtr.)	61.1	61.1	50.1	41.0	28.6	24.7	16.9	16.3	13.0	8.5	6.5	5.2
2 (1st qtr.)	46.2	46.2	38.4	31.9	26.7	22.1	16.3	15.0	11.7	8.5	7.2	5.9
2 (2nd qtr.)	38.4	38.4	31.2	25.4	24.7	19.5	14.3	13.7	9.8	7.2	5.9	4.6
2 (3rd qtr.)	34.5	34.5	28.6	23.4	22.8	16.9	11.7	11.1	7.8	5.9	4.6	3.9
2 (4th qtr.)	29.9	29.9	24.7	20.8	20.2	15.0	9.1	8.5	5.9	3.9	3.3	2.6
2 (annual)	138.8	138.3	114.7	95.1	88.5	69.3	48.6	45.4	33.3	24.1	19.9	16.2
3	129.4	129.4	105.3	85.8	70.2	59.2	42.3	31.9	20.2	14.3	11.1	9.8
4	125.5	125.5	94.3	70.9	55.3	44.2	29.3	22.8	13.7	11.7	7.2	5.9
5	106.6	106.6	78.0	57.2	43.6	34.5	21.5	15.0	11.7	10.4	7.8	6.5
6	65.7	65.7	55.9	47.5	35.8	26.7	17.6	11.1	9.8	9.8	6.5	5.2
7	48.8	48.8	43.6	39.0	30.6	22.1	16.3	9.1	7.8	7.8	5.2	3.9
8	40.3	40.3	36.4	32.5	26.0	18.2	15.0	8.5	7.2	5.9	3.3	2.0
9	31.9	31.9	29.9	28.0	22.8	15.6	12.4	7.2	5.9	4.6	2.0	0.7
10	27.3	27.3	24.7	22.8	18.9	11.7	7.2	5.2	5.2	3.3	2.0	0.0

ATTACHMENT D
2005 GTLW Mortality and Recovery Tables
Graduated Recovery Rates (1,000Q[X])
Ultimate Period (11+ years)

Attained Age	Male	Female	Attained Age	Male	Female
27	16.3	16.3	64	3.3	5.2
28	16.3	16.3	65	3.3	4.6
29	16.3	16.3	66	3.3	4.6
30	16.3	16.3	67	3.3	4.6
31	16.3	16.3	68	2.6	3.9
32	16.3	16.3	69	2.0	2.6
33	16.3	16.9	70	2.0	2.0
34	16.3	17.6	71	1.3	1.3
35	16.3	18.9	72	0.7	0.7
36	16.3	20.2	73	0.7	0.7
37	16.3	21.5	74	0.7	0.7
38	15.6	20.8	75	0.7	0.7
39	15.0	20.2	76	0.7	0.7
40	15.0	19.5	77	0.7	0.7
41	14.3	18.2	78	0.7	0.7
42	14.3	17.6	79	0.7	0.7
43	13.7	17.6	80	0.0	0.0
44	13.0	17.6	81	0.0	0.0
45	12.4	16.9	82	0.0	0.0
46	11.7	16.9	83	0.0	0.0
47	11.1	16.9	84	0.0	0.0
48	11.1	15.6	85	0.0	0.0
49	11.1	14.3	86	0.0	0.0
50	10.4	13.0	87	0.0	0.0
51	10.4	11.7	88	0.0	0.0
52	10.4	11.1	89	0.0	0.0
53	9.8	10.4	90	0.0	0.0
54	9.1	9.8	91	0.0	0.0
55	7.8	9.1	92	0.0	0.0
56	7.2	7.8	93	0.0	0.0
57	6.5	7.2	94	0.0	0.0
58	5.9	6.5	95	0.0	0.0
59	5.2	6.5	96	0.0	0.0
60	4.6	5.9	97	0.0	0.0
61	3.9	5.9	98	0.0	0.0
62	3.3	5.2	99	0.0	0.0
63	3.3	5.2			