

IDAPA 18 - DEPARTMENT OF INSURANCE

18.01.46 - RECOGNITION OF NEW ANNUITY MORTALITY TABLES FOR USE IN DETERMINING RESERVE LIABILITIES FOR ANNUITIES AND PURE ENDOWMENT CONTRACTS

DOCKET NO. 18-0146-1401

NOTICE OF RULEMAKING - ADOPTION OF PENDING RULE AND ADOPTION OF TEMPORARY RULE

EFFECTIVE DATE: The effective date of the temporary rule is January 1, 2015. The pending rule has been adopted by the agency and is now pending review by the 2015 Idaho State Legislature for final approval. The pending rule becomes final and effective at the conclusion of the legislative session, unless the rule is approved or rejected in part by concurrent resolution in accordance with Section 67-5224 and 67-5291, Idaho Code. If the pending rule is approved or rejected in part by concurrent resolution, the rule becomes final and effective upon adoption of the concurrent resolution or upon the date specified in the concurrent resolution.

AUTHORITY: In compliance with Sections 67-5224 and 67-5226, Idaho Code, notice is hereby given that this agency has adopted a pending rule and is also adopting a temporary rule. The action is authorized pursuant to Sections 41-211 and 41-612, Idaho Code.

DESCRIPTIVE SUMMARY: The following is the required finding and concise statement of its supporting reasons for adopting a temporary rule and a concise explanatory statement of the reasons for adopting the pending rule and a statement of any change between the text of the proposed rule and the text of the pending rule with an explanation of the reasons for the change:

The rulemaking amends Rule 46 to adopt the NAIC 2012 individual annuity reserve table (2012 IAR), consistent with NAIC Model Regulation 821, for annuities issued January 1, 2015, and later. There is a nationwide effort to have the table apply effective January 1, 2015, thus resulting in consistent reserve standards.

In accordance with Section 67-5226, Idaho Code, the full text of the temporary rule is being published in this Bulletin following this notice and includes changes made to the pending rule. The text of the pending rule has been modified in accordance with Section 67-5227, Idaho Code. In addition to the temporary rule, the changes made from the proposed rule to the pending rule follow receipt of a comment letter and are intended to clarify applicable subsections. The original text of the proposed rule was published in the September 3, 2014, Idaho Administrative Bulletin, [Vol. 14-9, pages 272 through 278](#).

TEMPORARY RULE JUSTIFICATION: Pursuant to Section 67-5226(1)(c), Idaho Code, the Governor has found that temporary adoption of the rule is appropriate for the following reason(s):

There is a benefit to life insurers to have this change made at the same time in as many states as possible, and there are nationwide efforts to have the table apply effective January 1, 2015, since it will require higher reserving.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars (\$10,000) during the fiscal year: NA

ASSISTANCE ON TECHNICAL QUESTIONS: For assistance on technical questions concerning the pending rule or temporary rule, contact Thomas A. Donovan, tom.donovan@doi.idaho.gov, (208) 334-4214.

DATED this 9th day of October, 2014.

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Substantive changes have been made to the pending rule.
Italicized red text that is *double underscored* is new text that has been added to the pending rule.

The text of the proposed rule was published in the Idaho Administrative Bulletin,
Volume 14-9, September 3, 2014, pages 272 through 278.

This rule has been adopted as a pending rule by the Agency and is now awaiting
review and final approval by the 2015 Idaho State Legislature.

Additionally, this rule has been adopted as a temporary rule and is effective January 1, 2015.

Pursuant to Section 67-5226, Idaho Code, the full text of
the temporary rule is being published in this Bulletin.

**THE FOLLOWING IS THE TEXT OF THE AMENDED PENDING RULE
AND TEMPORARY RULE FOR DOCKET NO. 18-0146-1401**

001. TITLE AND SCOPE.

01. Title. This rule shall be cited as IDAPA 18.01.46, "Recognition of New Annuity Mortality Tables for Use in Determining Reserve Liabilities for Annuities and Pure Endowment Contracts." (3-29-12)

02. Scope. The purpose of this rule is to recognize the following mortality tables for use in determining the minimum standard valuation for annuity and pure endowment contracts: the 1983 Table 'a,' the 1983 Group Annuity Mortality (1983 GAM) Table, the 1994 Group Annuity Reserving (1994 GAR) Table, ~~and~~ the Annuity 2000 Mortality Table, and the 2012 Individual Annuity Reserve (2012 IAR) Table. (~~3-29-12~~)(1-1-15)T

(BREAK IN CONTINUITY OF SECTIONS)

010. DEFINITIONS.

01. 1983 Table 'a'. As used in this rule "1983 Table 'a'" means that mortality table developed by the Society of Actuaries Committee to Recommend a New Mortality Basis for Individual Annuity Valuation and shown on page 708 of Volume 33 of the Transactions of Society of Actuaries 1981 and adopted as a recognized mortality table for annuities in June 1982 by the National Association of Insurance Commissioners. (3-29-12)

02. 1983 GAM Table. As used in this rule "1983 GAM Table" means that mortality table developed by the Society of Actuaries Committee on Annuities and shown on pages 880-881 of Volume 35 of the Transactions of Society of Actuaries 1983 and adopted as a recognized mortality table for annuities in December 1983 by the National Association of Insurance Commissioners. (3-29-12)

03. 1994 GAR Table. As used in this rule "1994 GAR Table" means that mortality table developed by the Society of Actuaries Group Annuity Valuation Table Task Force and shown on pages 866-867 of Volume 47 of the Transactions of Society of Actuaries 1995. (3-29-12)

04. 2012 Individual Annuity Mortality Period Life (2012 IAM Period) Table. As used in this rule, the "2012 Individual Annuity Mortality Period Life Table" or the "2012 IAM Period" means the Period table

containing loaded mortality rates for calendar year 2012. This table contains rates, q_x^{2012} , developed by the Society of Actuaries Committee on Life Insurance Research and is shown in Appendices 1 and 2. (1-1-15)T

05. 2012 Individual Annuity Reserving (2012 IAR) Table. As used in this rule, the “2012 Individual Annuity Reserving Table” or the “2012 IAR” means the generational mortality table developed by the Society of Actuaries Committee on Life Insurance Research and containing rates, q_x^{2012+n} derived from a combination of the 2012 IAM Period table and Projection Scale G2, using the methodology stated in Section 014. (1-1-15)T

046. Annuity 2000 Mortality Table. As used in this rule “Annuity 2000 Mortality Table” means that mortality table developed by the Society of Actuaries Committee on Life Insurance Research and shown on page 266 of Volume 47 of the Transactions of Society of Actuaries 1995 – 96 Reports. (3-29-12)

07. Generational Mortality Table. As used in this rule, “generational mortality table” means a mortality table containing a set of mortality rates that decrease for a given age from one year to the next based on a combination of a period table and a projection scale containing rates of mortality improvement. (1-1-15)T

08. Period Table. As used in this rule, “period table” means a table of mortality rates applicable to a given calendar year (the Period). (1-1-15)T

09. Projection Scale G2 (Scale G2). As used in this rule, “projection scale G2” is a table of annual rates, $G2_x$, of mortality improvement by age for projecting future mortality rates beyond calendar year 2012. This table was developed by the Society of Actuaries Committee on Life Insurance Research and is shown in Appendices 3 and 4. (1-1-15)T

(BREAK IN CONTINUITY OF SECTIONS)

011. INDIVIDUAL ANNUITY OR PURE ENDOWMENT CONTRACTS.

01. Individual Annuity Mortality Table. Except as provided in Subsections 011.02 and 011.03, of this rule, the 1983 Table ‘a’ is recognized and approved as an individual annuity mortality table for valuation and, at the option of the company, may be used for purposes of determining the minimum standard of valuation for any individual annuity or pure endowment contract issued on or after July 1, 1982. (3-29-12)

02. Minimum Standard for Valuation. Except as provided in Subsection 011.03 of this rule, either the 1983 Table ‘a’ or the Annuity 2000 Mortality Table shall be used for determining the minimum standard of valuation for any individual annuity or pure endowment contract issued on or after January 1, 1987. (3-29-12)

03. The Annuity 2000 Mortality Table. Except as provided in Subsection 011.04 of this rule, the Annuity 2000 Mortality Table shall be used for determining the minimum standard of valuation for any individual annuity or pure endowment contract issued on or after ~~the effective date of Subsections 011.03 and 011.04~~ March 29, 2012. (3-29-12)(1-1-15)T

04. The 2012 IAR Mortality Table. Except as provided in Subsection 011.05 of this rule, the 2012 IAR Mortality Table shall be used for determining the minimum standard of valuation for any individual annuity or pure endowment contract issued on or after January 1, 2015. (1-1-15)T

045. The 1983 Table ‘a.’ The 1983 Table ‘a’ without projection is to be used for determining the minimum standards of valuation for an individual annuity or pure endowment contract issued on or after ~~the effective date of Subsections 011.03 and 011.04 of this rule~~ March 29, 2012, solely when the contract is based on life contingencies and issued to fund periodic benefits arising from: (3-29-12)(1-1-15)T

a. Settlements of various forms of claims pertaining to court settlements or out of court settlements from tort actions; (3-29-12)

b. Settlements involving similar actions such as workers’ compensation claims; or (3-29-12)

c. Settlements of long term disability claims where a temporary or life annuity has been used in lieu of continuing disability payments. (3-29-12)

(BREAK IN CONTINUITY OF SECTIONS)

014. APPLICATION OF THE 2012 IAR MORTALITY TABLE.

01. Mortality Rate Formula. In using the 2012 IAR Mortality Table, the mortality rate for a person age x in year $(2012 + n)$ is calculated as follows: (1-1-15)T

a. $q_x^{2012+n} = q_x^{2012} (1 - G_{2-x})^n$ (1-1-15)T

b. The resulting q_x^{2012+n} shall be rounded to three (3) decimal places per one thousand (1,000), e.g., 0.741 deaths per one thousand (1,000). The rounding shall occur according to the formula above, starting at the 2012 period table rate. (1-1-15)T

02. Mortality Rate Formula Example. For a male age 30, $q_x^{2012} = 0.741$: (1-1-15)T

a. $q_x^{2013} = 0.741 * (1 - 0.010)^1 = 0.73359$, which is rounded to 0.734. (1-1-15)T

b. $q_x^{2014} = 0.741 * (1 - 0.010)^2 = 0.7262541$, which is rounded to 0.726. (1-1-15)T

c. A method leading to incorrect rounding would be to calculate q_x^{2014} as $q_x^{2013} * (1 - 0.010)$, or $0.734 * 0.99 = 0.727$. It is incorrect to use the already rounded q_x^{2013} to calculate q_x^{2014} . (1-1-15)T

0145. SEVERABILITY.

If any provision of this rule or the application thereof to any person or circumstances is for any reason held to be invalid, the remainder of the rule and the application of such provision to other persons or circumstances shall not be affected thereby. (7-1-93)

0146. -- 999. (RESERVED)

APPENDIX 1							
2012 IAM Period Table							
Female, Age Nearest Birthday							
AGE	1000 - q_x^{2012}	AGE	1000 - q_x^{2012}	AGE	1000 - q_x^{2012}	AGE	1000 - q_x^{2012}
<u>0</u>	<u>1.621</u>	<u>30</u>	<u>0.300</u>	<u>60</u>	<u>3.460</u>	<u>90</u>	<u>88.377</u>
<u>1</u>	<u>0.405</u>	<u>31</u>	<u>0.321</u>	<u>61</u>	<u>3.916</u>	<u>91</u>	<u>97.491</u>
<u>2</u>	<u>0.259</u>	<u>32</u>	<u>0.338</u>	<u>62</u>	<u>4.409</u>	<u>92</u>	<u>107.269</u>
<u>3</u>	<u>0.179</u>	<u>33</u>	<u>0.351</u>	<u>63</u>	<u>4.933</u>	<u>93</u>	<u>118.201</u>
<u>4</u>	<u>0.137</u>	<u>34</u>	<u>0.365</u>	<u>64</u>	<u>5.507</u>	<u>94</u>	<u>130.969</u>
<u>5</u>	<u>0.125</u>	<u>35</u>	<u>0.381</u>	<u>65</u>	<u>6.146</u>	<u>95</u>	<u>146.449</u>
<u>6</u>	<u>0.117</u>	<u>36</u>	<u>0.402</u>	<u>66</u>	<u>6.551</u>	<u>96</u>	<u>163.908</u>
<u>7</u>	<u>0.110</u>	<u>37</u>	<u>0.429</u>	<u>67</u>	<u>7.039</u>	<u>97</u>	<u>179.695</u>
<u>8</u>	<u>0.095</u>	<u>38</u>	<u>0.463</u>	<u>68</u>	<u>7.628</u>	<u>98</u>	<u>196.151</u>
<u>9</u>	<u>0.088</u>	<u>39</u>	<u>0.504</u>	<u>69</u>	<u>8.311</u>	<u>99</u>	<u>213.150</u>

APPENDIX 1 2012 IAM Period Table Female, Age Nearest Birthday							
AGE	$1000 - q_x^{2012}$	AGE	$1000 - q_x^{2012}$	AGE	$1000 - q_x^{2012}$	AGE	$1000 - q_x^{2012}$
<u>10</u>	<u>0.085</u>	<u>40</u>	<u>0.552</u>	<u>70</u>	<u>9.074</u>	<u>100</u>	<u>230.722</u>
<u>11</u>	<u>0.086</u>	<u>41</u>	<u>0.600</u>	<u>71</u>	<u>9.910</u>	<u>101</u>	<u>251.505</u>
<u>12</u>	<u>0.094</u>	<u>42</u>	<u>0.650</u>	<u>72</u>	<u>10.827</u>	<u>102</u>	<u>273.007</u>
<u>13</u>	<u>0.108</u>	<u>43</u>	<u>0.697</u>	<u>73</u>	<u>11.839</u>	<u>103</u>	<u>295.086</u>
<u>14</u>	<u>0.131</u>	<u>44</u>	<u>0.740</u>	<u>74</u>	<u>12.974</u>	<u>104</u>	<u>317.591</u>
<u>15</u>	<u>0.156</u>	<u>45</u>	<u>0.780</u>	<u>75</u>	<u>14.282</u>	<u>105</u>	<u>340.362</u>
<u>16</u>	<u>0.179</u>	<u>46</u>	<u>0.825</u>	<u>76</u>	<u>15.799</u>	<u>106</u>	<u>362.371</u>
<u>17</u>	<u>0.198</u>	<u>47</u>	<u>0.885</u>	<u>77</u>	<u>17.550</u>	<u>107</u>	<u>384.113</u>
<u>18</u>	<u>0.211</u>	<u>48</u>	<u>0.964</u>	<u>78</u>	<u>19.582</u>	<u>108</u>	<u>400.000</u>
<u>19</u>	<u>0.221</u>	<u>49</u>	<u>1.051</u>	<u>79</u>	<u>21.970</u>	<u>109</u>	<u>400.000</u>
<u>20</u>	<u>0.228</u>	<u>50</u>	<u>1.161</u>	<u>80</u>	<u>24.821</u>	<u>110</u>	<u>400.000</u>
<u>21</u>	<u>0.234</u>	<u>51</u>	<u>1.308</u>	<u>81</u>	<u>28.351</u>	<u>111</u>	<u>400.000</u>
<u>22</u>	<u>0.240</u>	<u>52</u>	<u>1.460</u>	<u>82</u>	<u>32.509</u>	<u>112</u>	<u>400.000</u>
<u>23</u>	<u>0.245</u>	<u>53</u>	<u>1.613</u>	<u>83</u>	<u>37.329</u>	<u>113</u>	<u>400.000</u>
<u>24</u>	<u>0.247</u>	<u>54</u>	<u>1.774</u>	<u>84</u>	<u>42.830</u>	<u>114</u>	<u>400.000</u>
<u>25</u>	<u>0.250</u>	<u>55</u>	<u>1.950</u>	<u>85</u>	<u>48.997</u>	<u>115</u>	<u>400.000</u>
<u>26</u>	<u>0.256</u>	<u>56</u>	<u>2.154</u>	<u>86</u>	<u>55.774</u>	<u>116</u>	<u>400.000</u>
<u>27</u>	<u>0.261</u>	<u>57</u>	<u>2.399</u>	<u>87</u>	<u>63.140</u>	<u>117</u>	<u>400.000</u>
<u>28</u>	<u>0.270</u>	<u>58</u>	<u>2.700</u>	<u>88</u>	<u>71.066</u>	<u>118</u>	<u>400.000</u>
<u>29</u>	<u>0.281</u>	<u>59</u>	<u>3.054</u>	<u>89</u>	<u>79.502</u>	<u>119</u>	<u>400.000</u>
						<u>120</u>	<u>1000.000</u>

(1-1-15)T

APPENDIX 2 2012 IAM Period Table Male, Age Nearest Birthday							
AGE	$1000 - q_x^{2012}$	AGE	$1000 - q_x^{2012}$	AGE	$1000 - q_x^{2012}$	AGE	$1000 - q_x^{2012}$
<u>0</u>	<u>1.605</u>	<u>30</u>	<u>0.741</u>	<u>60</u>	<u>5.096</u>	<u>90</u>	<u>109.993</u>
<u>1</u>	<u>0.401</u>	<u>31</u>	<u>0.751</u>	<u>61</u>	<u>5.614</u>	<u>91</u>	<u>123.119</u>
<u>2</u>	<u>0.275</u>	<u>32</u>	<u>0.754</u>	<u>62</u>	<u>6.169</u>	<u>92</u>	<u>137.168</u>
<u>3</u>	<u>0.229</u>	<u>33</u>	<u>0.756</u>	<u>63</u>	<u>6.759</u>	<u>93</u>	<u>152.171</u>
<u>4</u>	<u>0.174</u>	<u>34</u>	<u>0.756</u>	<u>64</u>	<u>7.398</u>	<u>94</u>	<u>168.194</u>
<u>5</u>	<u>0.168</u>	<u>35</u>	<u>0.756</u>	<u>65</u>	<u>8.106</u>	<u>95</u>	<u>185.260</u>
<u>6</u>	<u>0.165</u>	<u>36</u>	<u>0.756</u>	<u>66</u>	<u>8.548</u>	<u>96</u>	<u>197.322</u>
<u>7</u>	<u>0.159</u>	<u>37</u>	<u>0.756</u>	<u>67</u>	<u>9.076</u>	<u>97</u>	<u>214.751</u>
<u>8</u>	<u>0.143</u>	<u>38</u>	<u>0.756</u>	<u>68</u>	<u>9.708</u>	<u>98</u>	<u>232.507</u>
<u>9</u>	<u>0.129</u>	<u>39</u>	<u>0.800</u>	<u>69</u>	<u>10.463</u>	<u>99</u>	<u>250.397</u>
<u>10</u>	<u>0.113</u>	<u>40</u>	<u>0.859</u>	<u>70</u>	<u>11.357</u>	<u>100</u>	<u>268.607</u>
<u>11</u>	<u>0.111</u>	<u>41</u>	<u>0.926</u>	<u>71</u>	<u>12.418</u>	<u>101</u>	<u>290.016</u>

APPENDIX 2 2012 IAM Period Table Male, Age Nearest Birthday							
AGE	$1000 - q_x^{2012}$	AGE	$1000 - q_x^{2012}$	AGE	$1000 - q_x^{2012}$	AGE	$1000 - q_x^{2012}$
<u>12</u>	<u>0.132</u>	<u>42</u>	<u>0.999</u>	<u>72</u>	<u>13.675</u>	<u>102</u>	<u>311.849</u>
<u>13</u>	<u>0.169</u>	<u>43</u>	<u>1.069</u>	<u>73</u>	<u>15.150</u>	<u>103</u>	<u>333.962</u>
<u>14</u>	<u>0.213</u>	<u>44</u>	<u>1.142</u>	<u>74</u>	<u>16.860</u>	<u>104</u>	<u>356.207</u>
<u>15</u>	<u>0.254</u>	<u>45</u>	<u>1.219</u>	<u>75</u>	<u>18.815</u>	<u>105</u>	<u>380.000</u>
<u>16</u>	<u>0.293</u>	<u>46</u>	<u>1.318</u>	<u>76</u>	<u>21.031</u>	<u>106</u>	<u>400.000</u>
<u>17</u>	<u>0.328</u>	<u>47</u>	<u>1.454</u>	<u>77</u>	<u>23.540</u>	<u>107</u>	<u>400.000</u>
<u>18</u>	<u>0.359</u>	<u>48</u>	<u>1.627</u>	<u>78</u>	<u>26.375</u>	<u>108</u>	<u>400.000</u>
<u>19</u>	<u>0.387</u>	<u>49</u>	<u>1.829</u>	<u>79</u>	<u>29.572</u>	<u>109</u>	<u>400.000</u>
<u>20</u>	<u>0.414</u>	<u>50</u>	<u>2.057</u>	<u>80</u>	<u>33.234</u>	<u>110</u>	<u>400.000</u>
<u>21</u>	<u>0.443</u>	<u>51</u>	<u>2.302</u>	<u>81</u>	<u>37.533</u>	<u>111</u>	<u>400.000</u>
<u>22</u>	<u>0.473</u>	<u>52</u>	<u>2.545</u>	<u>82</u>	<u>42.261</u>	<u>112</u>	<u>400.000</u>
<u>23</u>	<u>0.513</u>	<u>53</u>	<u>2.779</u>	<u>83</u>	<u>47.441</u>	<u>113</u>	<u>400.000</u>
<u>24</u>	<u>0.554</u>	<u>54</u>	<u>3.011</u>	<u>84</u>	<u>53.233</u>	<u>114</u>	<u>400.000</u>
<u>25</u>	<u>0.602</u>	<u>55</u>	<u>3.254</u>	<u>85</u>	<u>59.855</u>	<u>115</u>	<u>400.000</u>
<u>26</u>	<u>0.655</u>	<u>56</u>	<u>3.529</u>	<u>86</u>	<u>67.514</u>	<u>116</u>	<u>400.000</u>
<u>27</u>	<u>0.688</u>	<u>57</u>	<u>3.845</u>	<u>87</u>	<u>76.340</u>	<u>117</u>	<u>400.000</u>
<u>28</u>	<u>0.710</u>	<u>58</u>	<u>4.213</u>	<u>88</u>	<u>86.388</u>	<u>118</u>	<u>400.000</u>
<u>29</u>	<u>0.727</u>	<u>59</u>	<u>4.631</u>	<u>89</u>	<u>97.634</u>	<u>119</u>	<u>400.000</u>
						<u>120</u>	<u>1000.000</u>

(1-1-15)T

APPENDIX 3 Projection Scale G2 Female, Age Nearest Birthday							
AGE	$G2_x$	AGE	$G2_x$	AGE	$G2_x$	AGE	$G2_x$
<u>0</u>	<u>0.010</u>	<u>30</u>	<u>0.010</u>	<u>60</u>	<u>0.013</u>	<u>90</u>	<u>0.006</u>
<u>1</u>	<u>0.010</u>	<u>31</u>	<u>0.010</u>	<u>61</u>	<u>0.013</u>	<u>91</u>	<u>0.006</u>
<u>2</u>	<u>0.010</u>	<u>32</u>	<u>0.010</u>	<u>62</u>	<u>0.013</u>	<u>92</u>	<u>0.005</u>
<u>3</u>	<u>0.010</u>	<u>33</u>	<u>0.010</u>	<u>63</u>	<u>0.013</u>	<u>93</u>	<u>0.005</u>
<u>4</u>	<u>0.010</u>	<u>34</u>	<u>0.010</u>	<u>64</u>	<u>0.013</u>	<u>94</u>	<u>0.004</u>
<u>5</u>	<u>0.010</u>	<u>35</u>	<u>0.010</u>	<u>65</u>	<u>0.013</u>	<u>95</u>	<u>0.004</u>
<u>6</u>	<u>0.010</u>	<u>36</u>	<u>0.010</u>	<u>66</u>	<u>0.013</u>	<u>96</u>	<u>0.004</u>
<u>7</u>	<u>0.010</u>	<u>37</u>	<u>0.010</u>	<u>67</u>	<u>0.013</u>	<u>97</u>	<u>0.003</u>
<u>8</u>	<u>0.010</u>	<u>38</u>	<u>0.010</u>	<u>68</u>	<u>0.013</u>	<u>98</u>	<u>0.003</u>
<u>9</u>	<u>0.010</u>	<u>39</u>	<u>0.010</u>	<u>69</u>	<u>0.013</u>	<u>99</u>	<u>0.002</u>
<u>10</u>	<u>0.010</u>	<u>40</u>	<u>0.010</u>	<u>70</u>	<u>0.013</u>	<u>100</u>	<u>0.002</u>
<u>11</u>	<u>0.010</u>	<u>41</u>	<u>0.010</u>	<u>71</u>	<u>0.013</u>	<u>101</u>	<u>0.002</u>
<u>12</u>	<u>0.010</u>	<u>42</u>	<u>0.010</u>	<u>72</u>	<u>0.013</u>	<u>102</u>	<u>0.001</u>
<u>13</u>	<u>0.010</u>	<u>43</u>	<u>0.010</u>	<u>73</u>	<u>0.013</u>	<u>103</u>	<u>0.001</u>

APPENDIX 3 Projection Scale G2 Female, Age Nearest Birthday							
AGE	G _{2x}	AGE	G _{2x}	AGE	G _{2x}	AGE	G _{2x}
<u>14</u>	<u>0.010</u>	<u>44</u>	<u>0.010</u>	<u>74</u>	<u>0.013</u>	<u>104</u>	<u>0.000</u>
<u>15</u>	<u>0.010</u>	<u>45</u>	<u>0.010</u>	<u>75</u>	<u>0.013</u>	<u>105</u>	<u>0.000</u>
<u>16</u>	<u>0.010</u>	<u>46</u>	<u>0.010</u>	<u>76</u>	<u>0.013</u>	<u>106</u>	<u>0.000</u>
<u>17</u>	<u>0.010</u>	<u>47</u>	<u>0.010</u>	<u>77</u>	<u>0.013</u>	<u>107</u>	<u>0.000</u>
<u>18</u>	<u>0.010</u>	<u>48</u>	<u>0.010</u>	<u>78</u>	<u>0.013</u>	<u>108</u>	<u>0.000</u>
<u>19</u>	<u>0.010</u>	<u>49</u>	<u>0.010</u>	<u>79</u>	<u>0.013</u>	<u>109</u>	<u>0.000</u>
<u>20</u>	<u>0.010</u>	<u>50</u>	<u>0.010</u>	<u>80</u>	<u>0.013</u>	<u>110</u>	<u>0.000</u>
<u>21</u>	<u>0.010</u>	<u>51</u>	<u>0.010</u>	<u>81</u>	<u>0.012</u>	<u>111</u>	<u>0.000</u>
<u>22</u>	<u>0.010</u>	<u>52</u>	<u>0.011</u>	<u>82</u>	<u>0.012</u>	<u>112</u>	<u>0.000</u>
<u>23</u>	<u>0.010</u>	<u>53</u>	<u>0.011</u>	<u>83</u>	<u>0.011</u>	<u>113</u>	<u>0.000</u>
<u>24</u>	<u>0.010</u>	<u>54</u>	<u>0.011</u>	<u>84</u>	<u>0.010</u>	<u>114</u>	<u>0.000</u>
<u>25</u>	<u>0.010</u>	<u>55</u>	<u>0.012</u>	<u>85</u>	<u>0.010</u>	<u>115</u>	<u>0.000</u>
<u>26</u>	<u>0.010</u>	<u>56</u>	<u>0.012</u>	<u>86</u>	<u>0.009</u>	<u>116</u>	<u>0.000</u>
<u>27</u>	<u>0.010</u>	<u>57</u>	<u>0.012</u>	<u>87</u>	<u>0.008</u>	<u>117</u>	<u>0.000</u>
<u>28</u>	<u>0.010</u>	<u>58</u>	<u>0.012</u>	<u>88</u>	<u>0.007</u>	<u>118</u>	<u>0.000</u>
<u>29</u>	<u>0.010</u>	<u>59</u>	<u>0.013</u>	<u>89</u>	<u>0.007</u>	<u>119</u>	<u>0.000</u>
						<u>120</u>	<u>0.000</u>

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APPENDIX 4 Projection Scale G2 Male, Age Nearest Birthday							
AGE	G _{2x}	AGE	G _{2x}	AGE	G _{2x}	AGE	G _{2x}
<u>0</u>	<u>0.010</u>	<u>30</u>	<u>0.010</u>	<u>60</u>	<u>0.015</u>	<u>90</u>	<u>0.007</u>
<u>1</u>	<u>0.010</u>	<u>31</u>	<u>0.010</u>	<u>61</u>	<u>0.015</u>	<u>91</u>	<u>0.007</u>
<u>2</u>	<u>0.010</u>	<u>32</u>	<u>0.010</u>	<u>62</u>	<u>0.015</u>	<u>92</u>	<u>0.006</u>
<u>3</u>	<u>0.010</u>	<u>33</u>	<u>0.010</u>	<u>63</u>	<u>0.015</u>	<u>93</u>	<u>0.005</u>
<u>4</u>	<u>0.010</u>	<u>34</u>	<u>0.010</u>	<u>64</u>	<u>0.015</u>	<u>94</u>	<u>0.005</u>
<u>5</u>	<u>0.010</u>	<u>35</u>	<u>0.010</u>	<u>65</u>	<u>0.015</u>	<u>95</u>	<u>0.004</u>
<u>6</u>	<u>0.010</u>	<u>36</u>	<u>0.010</u>	<u>66</u>	<u>0.015</u>	<u>96</u>	<u>0.004</u>
<u>7</u>	<u>0.010</u>	<u>37</u>	<u>0.010</u>	<u>67</u>	<u>0.015</u>	<u>97</u>	<u>0.003</u>
<u>8</u>	<u>0.010</u>	<u>38</u>	<u>0.010</u>	<u>68</u>	<u>0.015</u>	<u>98</u>	<u>0.003</u>
<u>9</u>	<u>0.010</u>	<u>39</u>	<u>0.010</u>	<u>69</u>	<u>0.015</u>	<u>99</u>	<u>0.002</u>
<u>10</u>	<u>0.010</u>	<u>40</u>	<u>0.010</u>	<u>70</u>	<u>0.015</u>	<u>100</u>	<u>0.002</u>
<u>11</u>	<u>0.010</u>	<u>41</u>	<u>0.010</u>	<u>71</u>	<u>0.015</u>	<u>101</u>	<u>0.002</u>
<u>12</u>	<u>0.010</u>	<u>42</u>	<u>0.010</u>	<u>72</u>	<u>0.015</u>	<u>102</u>	<u>0.001</u>
<u>13</u>	<u>0.010</u>	<u>43</u>	<u>0.010</u>	<u>73</u>	<u>0.015</u>	<u>103</u>	<u>0.001</u>
<u>14</u>	<u>0.010</u>	<u>44</u>	<u>0.010</u>	<u>74</u>	<u>0.015</u>	<u>104</u>	<u>0.000</u>
<u>15</u>	<u>0.010</u>	<u>45</u>	<u>0.010</u>	<u>75</u>	<u>0.015</u>	<u>105</u>	<u>0.000</u>

APPENDIX 4							
Projection Scale G2							
Male, Age Nearest Birthday							
AGE	G_{2x}	AGE	G_{2x}	AGE	G_{2x}	AGE	G_{2x}
<u>16</u>	<u>0.010</u>	<u>46</u>	<u>0.010</u>	<u>76</u>	<u>0.015</u>	<u>106</u>	<u>0.000</u>
<u>17</u>	<u>0.010</u>	<u>47</u>	<u>0.010</u>	<u>77</u>	<u>0.015</u>	<u>107</u>	<u>0.000</u>
<u>18</u>	<u>0.010</u>	<u>48</u>	<u>0.010</u>	<u>78</u>	<u>0.015</u>	<u>108</u>	<u>0.000</u>
<u>19</u>	<u>0.010</u>	<u>49</u>	<u>0.010</u>	<u>79</u>	<u>0.015</u>	<u>109</u>	<u>0.000</u>
<u>20</u>	<u>0.010</u>	<u>50</u>	<u>0.010</u>	<u>80</u>	<u>0.015</u>	<u>110</u>	<u>0.000</u>
<u>21</u>	<u>0.010</u>	<u>51</u>	<u>0.011</u>	<u>81</u>	<u>0.014</u>	<u>111</u>	<u>0.000</u>
<u>22</u>	<u>0.010</u>	<u>52</u>	<u>0.011</u>	<u>82</u>	<u>0.013</u>	<u>112</u>	<u>0.000</u>
<u>23</u>	<u>0.010</u>	<u>53</u>	<u>0.012</u>	<u>83</u>	<u>0.013</u>	<u>113</u>	<u>0.000</u>
<u>24</u>	<u>0.010</u>	<u>54</u>	<u>0.012</u>	<u>84</u>	<u>0.012</u>	<u>114</u>	<u>0.000</u>
<u>25</u>	<u>0.010</u>	<u>55</u>	<u>0.013</u>	<u>85</u>	<u>0.011</u>	<u>115</u>	<u>0.000</u>
<u>26</u>	<u>0.010</u>	<u>56</u>	<u>0.013</u>	<u>86</u>	<u>0.010</u>	<u>116</u>	<u>0.000</u>
<u>27</u>	<u>0.010</u>	<u>57</u>	<u>0.014</u>	<u>87</u>	<u>0.009</u>	<u>117</u>	<u>0.000</u>
<u>28</u>	<u>0.010</u>	<u>58</u>	<u>0.014</u>	<u>88</u>	<u>0.009</u>	<u>118</u>	<u>0.000</u>
<u>29</u>	<u>0.010</u>	<u>59</u>	<u>0.015</u>	<u>89</u>	<u>0.008</u>	<u>119</u>	<u>0.000</u>
						<u>120</u>	<u>0.000</u>

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