Minnesota Workers' Compensation
Insurers Association, Inc.
7701 France Avenue South • Suite 450
Minneapolis, MN 55435-3200

August 25, 2011

**ALL ASSOCIATION MEMBERS**

Circular Letter No. 11-1601

**RE: NCCI Item R-1403—2011 Update to Retrospective Rating Plan Parameters—Expected Loss Ranges and State Hazard Group Differentials—and Creation of Retrospective Rating Plan Manual Appendix D**

The Minnesota Department of Commerce has approved the above filing to become effective 12:01 a.m., January 1, 2012, for new and renewal business.

The purpose of this item is threefold. The first piece proposes an update to the Table of Expected Loss Ranges found in Appendix A of NCCI's 2009 edition of the ***Retrospective Rating Plan Manual for Workers' Compensation and Employers Liability Insurance***. Because this Table is published and filed in the Minnesota Ratemaking Report, we plan to file this updated Table of Expected Loss Ranges as part of the 2012 Minnesota Ratemaking Report.

The second piece proposes updated Hazard Group Differentials as published in NCCI's ***Basic Manual for Workers Compensation and Employers Liability Insurance***. Minnesota State Hazard Group Differentials are published and filed in the Minnesota Ratemaking Report. We plan to file State Hazard Group Differentials as part of the 2012 Minnesota Ratemaking Report.

The final piece of this item proposes moving Section D of the ***Retrospective Rating Plan Manual's User Guide*** and including it as Appendix D of the ***Retrospective Rating Plan Manual.*** This proposed new Appendix D contains an example of the calculation of a basic premium factor for illustrative purposes only. Attached is an exhibit showing the language for the proposed Appendix D.

Exhibit I illustrates all changes necessary to the ***Retrospective Rating Plan Manual*** and the ***Retrospective Rating Plan Manual's User Guide***. Please note that strikethroughs indicate deleted text while underlining indicates new or added text. A copy of National Council's original filing memorandum along with NCCI's Exhibits are also included to provide additional background information regarding Item R-1403.

Please direct any questions you may concerning this item to MWCIA's Actuarial Department at (952) 897-1737, option 3, or email at actuarial@mwcia.org.

**A NOTICE TO MEMBERSHIP:**
MWCIA would like to remind our membership who have filed a Limited power of Attorney with the Minnesota Department of Commerce that no materials referenced in this Circular Letter are required to be independently filed with the Department.

## RETROSPECTIVE RATING PLAN MANUAL—2009 EDITION

## APPENDIX D—BASIC PREMIUM FACTOR CALCULATION EXAMPLE

## EFFECTIVE JANUARY 1, 2012

| Current Phraseology | Proposed Phraseology |
|---|---|
| None | **BASIC PREMIUM FACTOR CALCULATION EXAMPLE** |
| None | The following example is for illustrative purposes only. It is not intended as a recommendation and is not to be interpreted as a recommendation. The factors used in the example have been filed and approved for use in certain states. Please refer to the rules and appendices in this manual or other NCCI manuals for the filed formulas and factors. |
| None | For this example, assume the Retrospective Rating Plan Agreement provides: |
| None | **Retrospective Rating Factors**<br>a. Estimated Standard Premium $500,000<br>b. Maximum Retrospective Premium Factor 130%<br>c. Minimum Retrospective Premium Factor 60%<br>d. Loss Conversion Factor 1.120<br>e. Tax Multiplier 1.070<br>f. State Hazard Group Relativity 1.80<br>g. Excess Loss Factor ($50,000 Loss Limit) .360<br>h. Expenses from Expense Ratio Table .201 |
| None | **Example Calculation of the Basic Premium Factor** |
| None | The key to establishing the Basic Premium Factor for the Retrospective Rating Plan is the Table of Insurance Charges filed with state insurance departments. By expected loss groups, it indicates the factors to establish the premium charge that is vital to the determination of the Basic Premium Factor. |
| None | 1. Estimated Standard Premium (a) $500,000<br>2. Expected Losses $306,500<br>3. Expected Loss Ratio .613<br>4. Expected limited Loss Ratio (3) – (g) .253<br>5. Expense and Profit and Contingency (Excluding Taxes) (1) x (h) $100.500<br>6. Expected loss Plus Expense Ratio [(2) + (5)] ÷ (1) .814<br>7. Loss and Expense in Converted Losses (3) x (d) .687<br>8. Expense and Profit and Contingency (Excluding Loss and Claim) (6) – (7) .127<br>9. Minimum Retrospective Premium Excluding Taxes [(c) ÷ (e)] .561<br>10. Maximum Retrospective Premium Excluding Taxes [(b) ÷ (e)] 1.215 |

## RETROSPECTIVE RATING PLAN MANUAL—2009 EDITION

## APPENDIX D—BASIC PREMIUM FACTOR CALCULATION EXAMPLE

## EFFECTIVE JANUARY 1, 2012

| Current Phraseology | Proposed Phraseology |
|---|---|
| | 11. Table of Insurance Charges Value Difference [(6) – (9)] ÷ [(d) x (4)] .893<br>12. Table of Insurance Charges Entry Difference [(10) – (9)] ÷ [(d) x (4)] 2.31<br>13. Ratio of Losses for Minimum Retrospective Premium to Expected Limited Losses .02<br>14. Ratio of Losses for Maximum Retrospective Premium to Expected Limited Losses 2.33<br>15. Table of Insurance Charges—Premium Charge for (14) .0883<br>16. Table of Insurance Charges—Premium Savings for (13) .0000<br>17. Net Insurance Charge [(15) – (16)] x (4) x (d) .025<br>18. Basic Premium Factor ((17) + (18) .152 |
| None | The use of the Table of Insurance Charges is accounted for in the following explanations and illustrations of how to determine the factors and other elements needed for the operation of the Plan. |
| None | **Note:** The procedures described here are designed exclusively for workers compensation and employers liability insurance. Rules for the application of a retrospective rating plan to a combination of workers compensation and employers liability insurance and other lines of casualty insurance are in the Retrospective Rating Plan manual issued by the Insurance Services Office (ISO).<br>**Note:** The above calculations are based on the 1998 Table of Insurance Charges in Appendix B of the ***Retrospective Rating Plan Manual***. |
| None | The procedure for establishing the values and factors in the above examples follows: |
| None | **Line 1. Estimated Standard Premium:** This is the annual standard premium. Refer to the ***Retrospective Rating Plan Manual*** for definition of standard premium. For three-year retrospective rating plans, multiply the annual standard premium times three (3). |
| None | **Line 2. Expected Losses:** For an intrastate risk, the expected losses equal the estimated standard premium (Line 1) multiplied by the expected loss ratio for the state (Line 3). For the purpose of this example, it has been assumed that the risk is an intrastate risk with an expected loss ratio of .613, which produces expected losses of $306,500 ($500,000 x .613). |
| None | For an interstate risk the expected losses equal the sum of the products of the estimated standard premium for each state and the corresponding expected loss ratio for each state. The expected loss ratio for the risk (Line 3) is obtained by dividing the total expected losses for all states covered by the Retrospective Rating Plan (Line 2) by the total standard premium (Line 1). |

## RETROSPECTIVE RATING PLAN MANUAL—2009 EDITION

## APPENDIX D—BASIC PREMIUM FACTOR CALCULATION EXAMPLE

## EFFECTIVE JANUARY 1, 2012

| Current Phraseology | Proposed Phraseology |
|---|---|
| None | **Line 3. Expected Loss Ratio:** See the discussion for Line 2. |
| None | **Line 4. Expected Limited Loss Ratio:** This ratio is determined by subtracting the excess loss factor from the expected loss ratio. |
| None | **Line 5. Expense and profit and Contingency—Excluding Taxes:** The expense and profit and contingency (excluding taxes) is determined, by multiplying the standard premium by the expense ratio. |
| None | For a three-year plan, values are determined similarly for each of the years based on each annual estimated standard premium, and the sum of these values is the provision for expense and profit and contingency. The value for expenses shown in this example is equal to $100,500 ($500,000 x .201). |
| None | **Line 6. Expected Loss Plus Expense Ratio:** This ratio is obtained by dividing the expected losses plus the expense and profit and contingency (excluding taxes) by the standard premium. |
| None | **Line 7. Loss and Expense in Converted Losses:** This factor, which expresses the ratio of expected losses and expense to estimated standard premium, is the product of the expected loss ratio and the loss conversion factor. |
| None | **Line 8. Expense and Profit and Contingency in Basic Premium:** The difference between the factor in Line 6, representing the total net premium provision for the insured under the Retrospective Rating Plan, and the factor in Line 7, representing expected losses and loss adjustment expense associated with insuring the risk, is the expense and contingency amount, and must be included in the basic premium. |
| None | **Line 9. Minimum Premium Retrospective Factor—Excluding Taxes** |
| None | **Line 10. Maximum premium Retrospective Factor—Excluding Taxes** |
| None | **Line 11. Table of Insurance Charges—Value Difference** |
| None | **Line 12. Table of Insurance Charges—Entry Difference** |
| None | Line 9 through Line 12 are determined in a way designed to facilitate the testing process by which the basic premium factor is established. The factors entered for these items are obtained as indicated in the example. |
| None | Line 11, Table of Insurance Charges—Value Difference, equals the difference between the table charge for the entry ratio from which the savings is taken and the table charge for the entry ratio from which the charge is taken. |

**RETROSPECTIVE RATING PLAN MANUAL—2009 EDITION**

**APPENDIX D—BASIC PREMIUM FACTOR CALCULATION EXAMPLE**

**EFFECTIVE JANUARY 1, 2012**

| Current Phraseology | Proposed Phraseology |
|---|---|
| None | Line 12, Table of Insurance Charges—Entry Difference, equals the difference between the entry ratio that determine the savings factor and the charge for the maximum premium. |
| None | To use the Table of Insurance Charges, find the loss group in the Table of Expected loss Ranges containing the adjusted expected loss value. The adjusted expected loss value is calculated as follows: |
| None | Expected Losses (Line 2) x State Hazard Group Relativity x Loss Group Adjustment Factor<br>The Loss Group Adjustment Factor (F) applies when an individual loss limit is selected. The factor is:<br>$F = \frac{1 + [(.8)(LER)}{1 - LER}$<br>where the LER = ELF ÷ Line (3) = .587<br>$F = \frac{1 + [(.8)(.587)]}{1 - (.587)} = 3.558$<br>State Hazard Group Relativity = 1.80 |
| None | The adjusted expected loss value equals 1,962,949 (= 306,500 x 1.80 x 3.558). This expected loss value falls into expected loss group 30. *Refer to the 2008 Table of Expected Loss Ranges in the* ***Retrospective Rating Plan Manual.*** |
| None | Then, choose two entry ratios from the Expected Loss Group in the table with a difference equal to Line 12. Make this choice so that the difference in the charges for the Expected Loss Group and for the selected entries most closely approximates Line 11. |
| None | To illustrate this testing procedure, several entry ratios and their corresponding charges in Group 30 have been reproduced from the Table: |

**RETROSPECTIVE RATING PLAN MANUAL—2009 EDITION**

**APPENDIX D—BASIC PREMIUM FACTOR CALCULATION EXAMPLE**

**EFFECTIVE JANUARY 1, 2012**

| Current Phraseology | Proposed Phraseology |
|---|---|
| None | **Entry Ratio** / **Charges (Group 30)** / **Savings**<br>.01 / .9900 / .0000<br>.02 / .9800 / .0000<br>.03 / .9700 / .0000<br><br>**Entry Ratio** / **Charges (Group 30)**<br>2.32 / .0888<br>2.33 / .0883<br>2.34 / .0877 |
| None | Choose and list pairs of entry ratios with a difference equal to Line 12, in this case 2.31, and note the respective difference in these charges:<br>(.01, 2.32)(.9900 – .0888) = .9012<br>(.02, 2.33)(.9800 – .0883) = .8917<br>(.03, 2.34)(.9700 – .0877) = .8823 |
| None | The pair of entry ratios whose charge difference most closely approximates Line 11, .893, is recorded under Lines 13 and 14. In this case, Line 13 is .02 and Line 14 is 2.33. |
| None | **Line 13. Ratio of Losses for Minimum Retrospective Premium to Expected Limited Losses:** See discussion for Line 12. |
| None | **Line 14. Ratio of Losses for Maximum Retrospective Premium to Expected Limited Losses:** See discussion for Line 12. |
| None | **Line 15. Table of Insurance Charges—Premium Charge for (14):** this is the premium charge for losses in excess of those provided by the maximum retrospective premium. It is obtained by reading from the table as shown in Line 12. |
| None | **Line 16. Table of Insurance Charges—Premium Savings for (13):** This is the premium savings for losses less than those that would produce the minimum retrospective premium. The values for premium savings are listed directly beneath the charge values in the Table of Insurance Charges. In this example, the savings of .0000 for entry ratio .02 (Line 13) in Group 30 is found directly beneath the charge value of .9800. |

## RETROSPECTIVE RATING PLAN MANUAL—2009 EDITION

## APPENDIX D—BASIC PREMIUM FACTOR CALCULATION EXAMPLE

## EFFECTIVE JANUARY 1, 2012

| Current Phraseology | Proposed Phraseology |
|---|---|
| None | **Line 17. Net Insurance Charge:** The net insurance charge is determined by calculating the difference between the charge for possible losses that might produce more than the maximum retrospective premium and the savings for losses that might produce less than the minimum retrospective premium, and then multiplying that difference by the product of the expected loss ratio and the loss conversion factor. The net insurance charge may be less than zero, as long as the basic premium factor is not negative. |
| None | **Line 18. Basic Premium Factor:** The basic premium factor is the sum of the net premium charge and the expenses and profit and contingencies in the basic premium expressed as a percentage of the standard premium. The standard premium multiplied by the basic premium factor produces the basic premium used in computing the retrospective rating plan premium. |

## RETROSPECTIVE RATING PLAN MANUALUSER'S GUIDE

## SECTION D—BASIC PREMIUM FACTOR CALCULATION EXAMPLE

## EFFECTIVE JANUARY 1, 2012

| Proposed Phraseology | Current Phraseology |
|---|---|
| ~~**BASIC PREMIUM FACTOR CALCULATION EXAMPLE**~~ | None |
| ~~The following example is for illustrative purposes only. It is not intended as a recommendation and is not to be interpreted as a recommendation. The factors used in the example have been filed and approved for use in certain states. Please refer to the rules and appendices in this manual or other NCCI manuals for the filed formulas and factors.~~ | None |
| ~~For this example, assume the Retrospective Rating Plan Agreement provides:~~ | None |
| ~~**Retrospective Rating Factors**~~<br>~~i.~~ ~~Estimated Standard Premium~~ ~~$500,000~~<br>~~j.~~ ~~Maximum Retrospective Premium Factor~~ ~~130%~~<br>~~k.~~ ~~Minimum Retrospective Premium Factor~~ ~~60%~~<br>~~l.~~ ~~Loss Conversion Factor~~ ~~1.120~~<br>~~m.~~ ~~Tax Multiplier~~ ~~1.070~~<br>~~n.~~ ~~State Hazard Group Relativity~~ ~~1.80~~<br>~~o.~~ ~~Excess Loss Factor ($50,000 Loss Limit)~~ ~~.360~~<br>~~p.~~ ~~Expenses from Expense Ratio Table~~ ~~.201~~ | None |
| ~~**Example Calculation of the Basic Premium Factor**~~ | None |
| ~~The key to establishing the Basic Premium Factor for the Retrospective Rating Plan is the Table of Insurance Charges filed with state insurance departments. By expected loss groups, it indicates the factors to establish the premium charge that is vital to the determination of the Basic Premium Factor.~~ | None |
| ~~19.~~ ~~Estimated Standard Premium (a)~~ ~~$500,000~~<br>~~20.~~ ~~Expected Losses~~ ~~$306,500~~<br>~~21.~~ ~~Expected Loss Ratio~~ ~~.613~~<br>~~22.~~ ~~Expected limited Loss Ratio (3) – (g)~~ ~~.253~~<br>~~23.~~ ~~Expense and Profit and Contingency (Excluding Taxes) (1) x (h)~~ ~~$100.500~~<br>~~24.~~ ~~Expected loss Plus Expense Ratio [(2) + (5)] ÷ (1)~~ ~~.814~~<br>~~25.~~ ~~Loss and Expense in Converted Losses (3) x (d)~~ ~~.687~~<br>~~26.~~ ~~Expense and Profit and Contingency (Excluding Loss and Claim) (6) – (7)~~ ~~.127~~<br>~~27.~~ ~~Minimum Retrospective Premium Excluding Taxes [(c) ÷ (e)]~~ ~~.561~~<br>~~28.~~ ~~Maximum Retrospective Premium Excluding Taxes [(b) ÷ (e)]~~ ~~1.215~~ | None |

## RETROSPECTIVE RATING PLAN MANUAL USER'S GUIDE

## SECTION D—BASIC PREMIUM FACTOR CALCULATION EXAMPLE

## EFFECTIVE JANUARY 1, 2012

| Proposed Phraseology | Current Phraseology |
|---|---|
| 29. ~~Table of Insurance Charges Value Difference [(6) – (9)] ÷ [(d) x (4)] .893~~<br>30. ~~Table of Insurance Charges Entry Difference [(10) – (9)] ÷ [(d) x (4)] 2.31~~<br>31. ~~Ratio of Losses for Minimum Retrospective Premium to Expected Limited Losses .02~~<br>32. ~~Ratio of Losses for Maximum Retrospective Premium to Expected Limited Losses 2.33~~<br>33. ~~Table of Insurance Charges—Premium Charge for (14) .0883~~<br>34. ~~Table of Insurance Charges—Premium Savings for (13) .0000~~<br>35. ~~Net Insurance Charge [(15) – (16)] x (4) x (d) .025~~<br>36. ~~Basic Premium Factor ((17) + (18) .152~~ | |
| ~~The use of the Table of Insurance Charges is accounted for in the following explanations and illustrations of how to determine the factors and other elements needed for the operation of the Plan.~~ | None |
| ~~**Note:** The procedures described here are designed exclusively for workers compensation and employers liability insurance. Rules for the application of a retrospective rating plan to a combination of workers compensation and employers liability insurance and other lines of casualty insurance are in the Retrospective Rating Plan manual issued by the Insurance Services Office (ISO).~~<br>~~**Note:** The above calculations are based on the 1998 Table of Insurance Charges in Appendix B of the ***Retrospective Rating Plan Manual***.~~ | None |
| ~~The procedure for establishing the values and factors in the above examples follows:~~ | None |
| ~~**Line 1. Estimated Standard Premium:** This is the annual standard premium. Refer to the ***Retrospective Rating Plan Manual*** for definition of standard premium. For three-year retrospective rating plans, multiply the annual standard premium times three (3).~~ | None |
| ~~**Line 2. Expected Losses:** For an intrastate risk, the expected losses equal the estimated standard premium (Line 1) multiplied by the expected loss ratio for the state (Line 3). For the purpose of this example, it has been assumed that the risk is an intrastate risk with an expected loss ratio of .613, which produces expected losses of $306,500 ($500,000 x .613).~~ | None |
| ~~For an interstate risk the expected losses equal the sum of the products of the estimated standard premium for each state and the corresponding expected loss ratio for each state. The expected loss ratio for the risk (Line 3) is obtained by dividing the total expected losses for all states covered by the Retrospective Rating Plan (Line 2) by the total standard premium (Line 1).~~ | None |

## RETROSPECTIVE RATING PLAN MANUAL USER'S GUIDE

## SECTION D—BASIC PREMIUM FACTOR CALCULATION EXAMPLE

## EFFECTIVE JANUARY 1, 2012

| Proposed Phraseology | Current Phraseology |
|---|---|
| ~~**Line 3. Expected Loss Ratio:** See the discussion for Line 2.~~ | None |
| ~~**Line 4. Expected Limited Loss Ratio:** This ratio is determined by subtracting the excess loss factor from the expected loss ratio.~~ | None |
| ~~**Line 5. Expense and profit and Contingency—Excluding Taxes:** The expense and profit and contingency (excluding taxes) is determined, by multiplying the standard premium by the expense ratio.~~ | None |
| ~~For a three-year plan, values are determined similarly for each of the years based on each annual estimated standard premium, and the sum of these values is the provision for expense and profit and contingency. The value for expenses shown in this example is equal to $100,500 ($500,000 x .201).~~ | None |
| ~~**Line 6. Expected Loss Plus Expense Ratio:** This ratio is obtained by dividing the expected losses plus the expense and profit and contingency (excluding taxes) by the standard premium.~~ | None |
| ~~**Line 7. Loss and Expense in Converted Losses:** This factor, which expresses the ratio of expected losses and expense to estimated standard premium, is the product of the expected loss ratio and the loss conversion factor.~~ | None |
| ~~**Line 8. Expense and Profit and Contingency in Basic Premium:** The difference between the factor in Line 6, representing the total net premium provision for the insured under the Retrospective Rating Plan, and the factor in Line 7, representing expected losses and loss adjustment expense associated with insuring the risk, is the expense and contingency amount, and must be included in the basic premium.~~ | None |
| ~~**Line 9. Minimum Premium Retrospective Factor—Excluding Taxes**~~ | None |
| ~~**Line 10. Maximum premium Retrospective Factor—Excluding Taxes**~~ | None |
| ~~**Line 11. Table of Insurance Charges—Value Difference**~~ | None |
| ~~**Line 12. Table of Insurance Charges—Entry Difference**~~ | None |
| ~~Line 9 through Line 12 are determined in a way designed to facilitate the testing process by which the basic premium factor is established. The factors entered for these items are obtained as indicated in the example.~~ | None |
| ~~Line 11, Table of Insurance Charges—Value Difference, equals the difference between the table charge for the entry ratio from which the savings is taken and the table charge for the entry ratio from which the charge is taken.~~ | None |

## RETROSPECTIVE RATING PLAN MANUAL USER'S GUIDE

## SECTION D—BASIC PREMIUM FACTOR CALCULATION EXAMPLE

## EFFECTIVE JANUARY 1, 2012

| Proposed Phraseology | Current Phraseology |
|---|---|
| ~~Line 12, Table of Insurance Charges—Entry Difference, equals the difference between the entry ratio that determine the savings factor and the charge for the maximum premium.~~ | None |
| ~~To use the Table of Insurance Charges, find the loss group in the Table of Expected loss Ranges containing the adjusted expected loss value. The adjusted expected loss value is calculated as follows:~~ | None |
| ~~Expected Losses (Line 2) x State Hazard Group Relativity x Loss Group Adjustment Factor~~<br>~~The Loss Group Adjustment Factor (F) applies when an individual loss limit is selected. The factor is:~~<br>$\cancel{F = \frac{1 + [(.8)(LER)]}{1 - LER}}$<br>~~where the LER = ELF ÷ Line (3) = .587~~<br>$\cancel{F = \frac{1 + [(.8)(.587)]}{1 - (.587)} = 3.558}$<br>~~State Hazard Group Relativity = 1.80~~ | None |
| ~~The adjusted expected loss value equals 1,962,949 (= 306,500 x 1.80 x 3.558). This expected loss value falls into expected loss group 30.~~ ~~*Refer to the 2008 Table of Expected Loss Ranges in the* ***Retrospective Rating Plan Manual.***~~ | None |
| ~~Then, choose two entry ratios from the Expected Loss Group in the table with a difference equal to Line 12. Make this choice so that the difference in the charges for the Expected Loss Group and for the selected entries most closely approximates Line 11.~~ | None |
| ~~To illustrate this testing procedure, several entry ratios and their corresponding charges in Group 30 have been reproduced from the Table:~~ | None |

| Proposed Phraseology | Current Phraseology |
|---|---|
| ~~**Entry Ratio**~~ ~~**Charges (Group 30)**~~ ~~**Savings**~~<br>~~.01~~ ~~.9900~~ ~~.0000~~<br>~~.02~~ ~~.9800~~ ~~.0000~~<br>~~.03~~ ~~.9700~~ ~~.0000~~<br><br>~~**Entry Ratio**~~ ~~**Charges (Group 30)**~~<br>~~2.32~~ ~~.0888~~<br>~~2.33~~ ~~.0883~~<br>~~2.34~~ ~~.0877~~ | None |
| ~~Choose and list pairs of entry ratios with a difference equal to Line 12, in this case 2.31, and note the respective difference in these charges:~~<br>~~(.01, 2.32)(.9900 – .0888) = .9012~~<br>~~(.02, 2.33)(.9800 – .0883) = .8917~~<br>~~(.03, 2.34)(.9700 – .0877) = .8823~~ | None |
| ~~The pair of entry ratios whose charge difference most closely approximates Line 11, .893, is recorded under Lines 13 and 14. In this case, Line 13 is .02 and Line 14 is 2.33.~~ | None |
| ~~**Line 13. Ratio of Losses for Minimum Retrospective Premium to Expected Limited Losses:** See discussion for Line 12.~~ | None |
| ~~**Line 14. Ratio of Losses for Maximum Retrospective Premium to Expected Limited Losses:** See discussion for Line 12.~~ | None |
| ~~**Line 15. Table of Insurance Charges—Premium Charge for (14):** this is the premium charge for losses in excess of those provided by the maximum retrospective premium. It is obtained by reading from the table as shown in Line 12.~~ | None |
| ~~**Line 16. Table of Insurance Charges—Premium Savings for (13):** This is the premium savings for losses less than those that would produce the minimum retrospective premium. The values for premium savings are listed directly beneath the charge values in the Table of Insurance Charges. In this example, the savings of .0000 for entry ratio .02 (Line 13) in Group 30 is found directly beneath the charge value of .9800.~~ | None |

## RETROSPECTIVE RATING PLAN MANUAL USER'S GUIDE

## SECTION D—BASIC PREMIUM FACTOR CALCULATION EXAMPLE

## EFFECTIVE JANUARY 1, 2012

| Proposed Phraseology | Current Phraseology |
|---|---|
| ~~**Line 17. Net Insurance Charge:** The net insurance charge is determined by calculating the difference between the charge for possible losses that might produce more than the maximum retrospective premium and the savings for losses that might produce less than the minimum retrospective premium, and then multiplying that difference by the product of the expected loss ratio and the loss conversion factor. The net insurance charge may be less than zero, as long as the basic premium factor is not negative.~~ | None |
| ~~**Line 18. Basic Premium Factor:** The basic premium factor is the sum of the net premium charge and the expenses and profit and contingencies in the basic premium expressed as a percentage of the standard premium. The standard premium multiplied by the basic premium factor produces the basic premium used in computing the retrospective rating plan premium.~~ | None |

# FILING MEMORANDUM

## ITEM R-1403—2011 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS–EXPECTED LOSS RANGES AND STATE HAZARD GROUP DIFFERENTIALS–AND CREATION OF RETROSPECTIVE RATING PLAN MANUAL APPENDIX D

## PURPOSE

This item updates Appendix A—Table of Expected Loss Ranges and the Hazard Group Differentials (commonly referred to as Relativities), and creates Appendix D—Basic Premium Factor Calculation Example in NCCI's 2009 Edition of the ***Retrospective Rating Plan Manual for Workers Compensation and Employers Liability Insurance***.

## BACKGROUND

The Retrospective Rating Plan adjusts a risk's premium for a policy according to the loss experience during the effective period of the policy. At the simplest level, an insured's retrospective premium is determined by the formula R = (b + cL)*T, where:

| | | |
|---|---|---|
| R | = | Retrospective premium, subject to minimum and maximum amounts |
| b | = | Basic premium |
| c | = | Loss conversion factor, generally reflecting loss adjustment expense |
| L | = | Actual incurred loss during the effective policy period |
| T | = | Tax multiplier |

The retrospective premium, R, is not known until after the policy has expired and the actual losses are fully developed. The basic premium contains provisions for the expenses of the carrier. It also includes a net insurance charge, which results from the maximum and minimum limitations on the retrospective premium. The net insurance charge reflects the charge to compensate for the possibility that R will exceed the maximum premium amount. It also reflects the savings resulting from the possibility that R will be less than the minimum premium amount. The net insurance charge is the difference between the charge for the maximum and the savings from the minimum.

### Expected Loss Ranges

Appendix B—Table of Insurance Charges contains the excess ratios needed to quantify the insurance charge and savings described above. The ratio of the loss limit to expected losses—the entry ratio—is used to look up the values in the Table of Insurance Charges. The charges depend not only on the maximum and minimum subject losses, but also on the size of the insured. This is because the expected variation in losses is lower for larger employers.

As inflation increases claim size, there is an apparent growth in the size of the insured, measured in expected losses, but no real growth in the size of the insured, measured in the expected number of claims. To correct for the impact of loss size inflation, NCCI is proposing that Appendix A—Table of Expected Loss Ranges be updated for the trend in average size of loss. The last time such an update was made was in 2007 (Item R-1396—2007 Update to Retrospective Rating Plan Parameters). The current Table of Expected Loss Ranges is based on a projected annual increase in average loss size of 8.5% from March 26, 2004 to January 1, 2009. NCCI has observed an actual annualized growth in average loss size of 5.5% from March 26, 2004

## FILING MEMORANDUM

## ITEM R-1403—2011 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS–EXPECTED LOSS RANGES AND STATE HAZARD GROUP DIFFERENTIALS–AND CREATION OF RETROSPECTIVE RATING PLAN MANUAL APPENDIX D

to March 5, 2008, and projects an annual growth in average loss size of 5.5% from March 5, 2008 to January 1, 2013. The new table incorporates both of these observed and projected changes in severity.

**Hazard Group Differentials**

The variation in the loss ratios for employers in the lower hazard groups generally should be smaller than the variation for employers in the higher hazard groups. The Hazard Group Differential factors adjust for this difference by placing lower hazard group employers in a higher Expected Loss Range and higher hazard group employers in a lower Expected Loss Range than would otherwise be the case. This adjustment affects the column selection in Appendix B—Table of Insurance Charges, which then impacts the basic premium portion of the retrospective policy premium. The Hazard Group Differentials should be updated regularly to reflect changes in the circumstances (e.g., state statutory benefit levels, inflation, etc.) underlying each state's severity.

**NCCI's 2009 Edition of the Retrospective Rating Plan Manual**

In 2009, NCCI filed Item R-1399, which introduced the 2009 Edition of the ***Retrospective Rating Plan Manual***. In addition, the 2009 Edition of the ***Retrospective Rating Plan Manual User's Guide*** was also introduced. This companion product contains nonpremium-impact-related information and is not filed for regulatory approval. Section D of the ***User's Guide*** contains the calculation of a basic premium factor. NCCI has determined that this calculation should be filed for regulatory approval and included in the ***Retrospective Rating Plan Manual*** as Appendix D. It will be removed from the ***User's Guide***.

## PROPOSAL

It is proposed that changes be made, as described in the Background section, to Appendix A—Table of Expected Loss Ranges, and the Hazard Group Differentials/Relativities, and the creation of Appendix D, in NCCI's 2009 Edition of the ***Retrospective Rating Plan Manual***. Please note that this item is not being filed in Virginia at this time. The proposed changes will be included in the next loss cost filing.

**Exception:** In Hawaii, the effective date is determined upon regulatory approval of the individual carrier's election to adopt these changes.

**Florida State-Specific**

It is proposed that Florida revise Appendix A—Table of Expected Loss Ranges and the Hazard Group Differentials to NCCI's 1984 Edition of the ***Retrospective Rating Plan Manual*** since the 2009 Edition has not yet been approved in Florida. Also, the creation of Appendix D is not being proposed in Florida since the 1984 Edition of the manual contains the basic premium factor calculation example.

**Texas State-Specific**

It is proposed that Texas discontinue its state special Appendix D to NCCI's 2009 Edition of the ***Retrospective Rating Plan Manual*** and adopt the national proposal, which mirrors the Texas version.

## FILING MEMORANDUM

## ITEM R-1403—2011 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS–EXPECTED LOSS RANGES AND STATE HAZARD GROUP DIFFERENTIALS–AND CREATION OF RETROSPECTIVE RATING PLAN MANUAL APPENDIX D

**West Virginia State-Specific**

It is proposed that West Virginia adopt only Exhibits 1 & 4 of this item. The Expected Loss Ranges and the Hazard Group Differentials will be included in the next loss cost filing.

## IMPACT

### Expected Loss Ranges

The proposed changes to the Expected Loss Ranges are necessary to maintain the aggregate expected balance between the retrospectively rated premium and the guaranteed cost premium. If these ranges were not updated, there would be a natural slippage caused by inflation over time because risks would have an apparent growth in size as seen by increasing expected losses, but no real growth in size as seen by their expected number of claims. These changes are expected to be revenue neutral.

### Hazard Group Differentials

Retrospective rating should produce premium that is equitably distributed to all insured employers, but, on average, close to the guaranteed cost premium. The object of this change is to maintain the aggregate expected balance, although the impact will vary slightly for each insured employer. For most insured employers electing retrospective rating, the impact on final premium from these changes is expected to be minimal. The improved equity afforded by retrospective rating from this change will result in slightly lower average insurance charges for some insureds, and slightly higher charges for others. However, the statewide impact will be negligible. The program is designed to be revenue-neutral countrywide.

### NCCI's 2009 Edition of the Retrospective Rating Plan Manual

No premium impact is expected as a result of the revisions to the 2009 Edition of the ***Retrospective Rating Plan Manual***.

## IMPLEMENTATION

In order to implement this item, the attached exhibits detail the changes required in NCCI's 2009 Edition of the ***Retrospective Rating Plan Manual***. As explained in these exhibits, individual state severities, as well as countrywide severities, are used in the calculation of the relativities. The following is a summary of the exhibits included in this item filing package:

- **Exhibit 1** contains Appendix A—Table of Expected Loss Ranges
- **Exhibit 2** contains the State Hazard Group Differentials
- **Exhibit 3** contains a description of the development of the differentials/relativities
- **Exhibit 4** contains the new Appendix D—Basic Premium Factor Calculation Example
- **Exhibit 5** contains the Texas state special Appendix D to be discontinued

In all states this item will be implemented effective at 12:01 a.m. on January 1, 2012, applicable to new and renewal voluntary policies only.

**ITEM R-1403—2011 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS—EXPECTED LOSS RANGES AND STATE HAZARD GROUP DIFFERENTIALS—AND CREATION OF RETROSPECTIVE RATING PLAN MANUAL APPENDIX D**

## EXHIBIT 1

## RETROSPECTIVE RATING PLAN MANUAL—2009 EDITION
## APPENDIX A
## 2012—TABLE OF EXPECTED LOSS RANGES

**(Applies in: AK, AL, AR, AZ, CO, CT, DC, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, TX, UT, VT, WI, WV)**

| Expected Loss Group | Range Rounded Values | Expected Loss Group | Range Rounded Values | Expected Loss Group | Range Rounded Values |
|---|---|---|---|---|---|
| 95 | 1,069 — 1,668 | 65 | 89,596 — 96,768 | 35 | 1,117,459 — 1,254,650 |
| 94 | 1,669 — 2,469 | 64 | 96,769 — 104,515 | 34 | 1,254,651 — 1,408,687 |
| 93 | 2,470 — 3,262 | 63 | 104,516 — 112,881 | 33 | 1,408,688 — 1,606,329 |
| 92 | 3,263 — 4,312 | 62 | 112,882 — 121,917 | 32 | 1,606,330 — 1,846,373 |
| 91 | 4,313 — 5,608 | 61 | 121,918 — 131,677 | 31 | 1,846,374 — 2,122,290 |
| 90 | 5,609 — 6,774 | 60 | 131,678 — 142,246 | 30 | 2,122,291 — 2,439,441 |
| 89 | 6,775 — 8,175 | 59 | 142,247 — 153,803 | 29 | 2,439,442 — 2,899,798 |
| 88 | 8,176 — 9,490 | 58 | 153,804 — 166,063 | 28 | 2,899,799 — 3,467,527 |
| 87 | 9,491 — 11,016 | 57 | 166,064 — 178,922 | 27 | 3,467,528 — 4,146,414 |
| 86 | 11,017 — 12,778 | 56 | 178,923 — 192,782 | 26 | 4,146,415 — 5,111,668 |
| 85 | 12,779 — 14,451 | 55 | 192,783 — 207,716 | 25 | 5,111,669 — 6,504,746 |
| 84 | 14,452 — 16,337 | 54 | 207,717 — 224,594 | 24 | 6,504,747 — 8,277,480 |
| 83 | 16,338 — 18,450 | 53 | 224,595 — 242,913 | 23 | 8,277,481 — 10,577,165 |
| 82 | 18,451 — 20,529 | 52 | 242,914 — 262,733 | 22 | 10,577,166 — 13,534,484 |
| 81 | 20,530 — 22,841 | 51 | 262,734 — 284,159 | 21 | 13,534,485 — 17,318,654 |
| 80 | 22,842 — 25,410 | 50 | 284,160 — 306,638 | 20 | 17,318,655 — 22,160,857 |
| 79 | 25,411 — 28,271 | 49 | 306,639 — 330,841 | 19 | 22,160,858 — 28,356,911 |
| 78 | 28,272 — 31,196 | 48 | 330,842 — 357,128 | 18 | 28,356,912 — 38,897,361 |
| 77 | 31,197 — 34,345 | 47 | 357,129 — 388,536 | 17 | 38,897,362 — 57,528,883 |
| 76 | 34,346 — 37,816 | 46 | 388,537 — 422,704 | 16 | 57,528,884 — 85,084,766 |
| 75 | 37,817 — 41,556 | 45 | 422,705 — 459,879 | 15 | 85,084,767 — 125,839,689 |
| 74 | 41,557 — 45,495 | 44 | 459,880 — 502,548 | 14 | 125,839,690 — 186,115,898 |
| 73 | 45,496 — 49,808 | 43 | 502,549 — 549,895 | 13 | 186,115,899 — 275,263,927 |
| 72 | 49,809 — 54,536 | 42 | 549,896 — 601,708 | 12 | 275,263,928 — 430,893,183 |
| 71 | 54,537 — 59,530 | 41 | 601,709 — 663,309 | 11 | 430,893,184 — 681,845,588 |
| 70 | 59,531 — 64,935 | 40 | 663,310 — 733,021 | 10 | 681,845,589 — 1,078,952,801 |
| 69 | 64,936 — 70,826 | 39 | 733,022 — 810,061 | 9 | 1,078,952,802 — & over |
| 68 | 70,827 — 76,791 | 38 | 810,062 — 895,197 | | |
| 67 | 76,792 — 82,946 | 37 | 895,198 — 995,262 | | |
| 66 | 82,947 — 89,595 | 36 | 995,263 — 1,117,458 | | |

## ITEM R-1403—2011 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS —EXPECTED LOSS RANGES AND STATE HAZARD GROUP DIFFERENTIALS —AND CREATION OF RETROSPECTIVE RATING PLAN MANUAL APPENDIX D

### EXHIBIT 1

### RETROSPECTIVE RATING PLAN MANUAL—1984 EDITION
### PART FOUR—B
### 2012—TABLE OF EXPECTED LOSS RANGES

**(Applies in: FL)**

| Expected Loss Group | Range Rounded Values | Expected Loss Group | Range Rounded Values | Expected Loss Group | Range Rounded Values |
|---|---|---|---|---|---|
| 95 | 1,069 — 1,668 | 65 | 89,596 — 96,768 | 35 | 1,117,459 — 1,254,650 |
| 94 | 1,669 — 2,469 | 64 | 96,769 — 104,515 | 34 | 1,254,651 — 1,408,687 |
| 93 | 2,470 — 3,262 | 63 | 104,516 — 112,881 | 33 | 1,408,688 — 1,606,329 |
| 92 | 3,263 — 4,312 | 62 | 112,882 — 121,917 | 32 | 1,606,330 — 1,846,373 |
| 91 | 4,313 — 5,608 | 61 | 121,918 — 131,677 | 31 | 1,846,374 — 2,122,290 |
| 90 | 5,609 — 6,774 | 60 | 131,678 — 142,246 | 30 | 2,122,291 — 2,439,441 |
| 89 | 6,775 — 8,175 | 59 | 142,247 — 153,803 | 29 | 2,439,442 — 2,899,798 |
| 88 | 8,176 — 9,490 | 58 | 153,804 — 166,063 | 28 | 2,899,799 — 3,467,527 |
| 87 | 9,491 — 11,016 | 57 | 166,064 — 178,922 | 27 | 3,467,528 — 4,146,414 |
| 86 | 11,017 — 12,778 | 56 | 178,923 — 192,782 | 26 | 4,146,415 — 5,111,668 |
| 85 | 12,779 — 14,451 | 55 | 192,783 — 207,716 | 25 | 5,111,669 — 6,504,746 |
| 84 | 14,452 — 16,337 | 54 | 207,717 — 224,594 | 24 | 6,504,747 — 8,277,480 |
| 83 | 16,338 — 18,450 | 53 | 224,595 — 242,913 | 23 | 8,277,481 — 10,577,165 |
| 82 | 18,451 — 20,529 | 52 | 242,914 — 262,733 | 22 | 10,577,166 — 13,534,484 |
| 81 | 20,530 — 22,841 | 51 | 262,734 — 284,159 | 21 | 13,534,485 — 17,318,654 |
| 80 | 22,842 — 25,410 | 50 | 284,160 — 306,638 | 20 | 17,318,655 — 22,160,857 |
| 79 | 25,411 — 28,271 | 49 | 306,639 — 330,841 | 19 | 22,160,858 — 28,356,911 |
| 78 | 28,272 — 31,196 | 48 | 330,842 — 357,128 | 18 | 28,356,912 — 38,897,361 |
| 77 | 31,197 — 34,345 | 47 | 357,129 — 388,536 | 17 | 38,897,362 — 57,528,883 |
| 76 | 34,346 — 37,816 | 46 | 388,537 — 422,704 | 16 | 57,528,884 — 85,084,766 |
| 75 | 37,817 — 41,556 | 45 | 422,705 — 459,879 | 15 | 85,084,767 — 125,839,689 |
| 74 | 41,557 — 45,495 | 44 | 459,880 — 502,548 | 14 | 125,839,690 — 186,115,898 |
| 73 | 45,496 — 49,808 | 43 | 502,549 — 549,895 | 13 | 186,115,899 — 275,263,927 |
| 72 | 49,809 — 54,536 | 42 | 549,896 — 601,708 | 12 | 275,263,928 — 430,893,183 |
| 71 | 54,537 — 59,530 | 41 | 601,709 — 663,309 | 11 | 430,893,184 — 681,845,588 |
| 70 | 59,531 — 64,935 | 40 | 663,310 — 733,021 | 10 | 681,845,589 — 1,078,952,801 |
| 69 | 64,936 — 70,826 | 39 | 733,022 — 810,061 | 9 | 1,078,952,802 — & over |
| 68 | 70,827 — 76,791 | 38 | 810,062 — 895,197 | | |
| 67 | 76,792 — 82,946 | 37 | 895,198 — 995,262 | | |
| 66 | 82,947 — 89,595 | 36 | 995,263 — 1,117,458 | | |

## EXHIBIT 2

## RETROSPECTIVE RATING PLAN MANUAL—2009 EDITION
## STATE SPECIAL RATING VALUES
## 1. HAZARD GROUP DIFFERENTIALS

**(Applies in: AK, AL, AR, AZ, CO, CT, DC, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, TX, UT, VT, WI)**

| State | Hazard Group | | | | | | |
|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G |
| AK | 1.74 | 1.28 | 1.14 | 1.03 | 0.88 | 0.72 | 0.55 |
| AL | 1.69 | 1.25 | 1.11 | 1.00 | 0.86 | 0.70 | 0.53 |
| AR | 1.87 | 1.38 | 1.22 | 1.10 | 0.93 | 0.75 | 0.55 |
| AZ | 1.84 | 1.36 | 1.20 | 1.08 | 0.91 | 0.73 | 0.53 |
| CO | 2.00 | 1.50 | 1.34 | 1.21 | 1.04 | 0.85 | 0.66 |
| CT | 1.56 | 1.14 | 1.02 | 0.91 | 0.78 | 0.63 | 0.48 |
| DC | 1.80 | 1.32 | 1.17 | 1.06 | 0.90 | 0.74 | 0.56 |
| GA | 1.55 | 1.16 | 1.03 | 0.93 | 0.79 | 0.65 | 0.49 |
| HI | 2.18 | 1.60 | 1.43 | 1.29 | 1.10 | 0.91 | 0.70 |
| IA | 1.77 | 1.31 | 1.18 | 1.06 | 0.91 | 0.74 | 0.57 |
| ID | 1.82 | 1.36 | 1.22 | 1.11 | 0.95 | 0.79 | 0.60 |
| IL | 1.31 | 0.99 | 0.90 | 0.81 | 0.70 | 0.57 | 0.44 |
| IN | 1.97 | 1.48 | 1.33 | 1.21 | 1.04 | 0.87 | 0.67 |
| KS | 1.74 | 1.30 | 1.16 | 1.05 | 0.89 | 0.73 | 0.56 |
| KY | 1.80 | 1.33 | 1.18 | 1.06 | 0.90 | 0.74 | 0.54 |
| LA | 1.44 | 1.07 | 0.95 | 0.86 | 0.74 | 0.61 | 0.47 |
| MD | 1.69 | 1.25 | 1.11 | 1.00 | 0.85 | 0.70 | 0.54 |
| ME | 1.72 | 1.26 | 1.13 | 1.02 | 0.87 | 0.72 | 0.55 |
| MI | 1.85 | 1.37 | 1.23 | 1.12 | 0.97 | 0.80 | 0.61 |
| MO | 1.96 | 1.49 | 1.33 | 1.20 | 1.03 | 0.84 | 0.64 |
| MS | 1.86 | 1.38 | 1.23 | 1.11 | 0.95 | 0.78 | 0.60 |
| MT | 1.79 | 1.33 | 1.17 | 1.06 | 0.90 | 0.73 | 0.54 |
| NC | 1.37 | 1.03 | 0.92 | 0.82 | 0.71 | 0.57 | 0.44 |
| NE | 1.75 | 1.30 | 1.16 | 1.04 | 0.89 | 0.72 | 0.55 |
| NH | 1.57 | 1.15 | 1.03 | 0.93 | 0.79 | 0.65 | 0.50 |
| NM | 1.76 | 1.30 | 1.16 | 1.05 | 0.89 | 0.74 | 0.57 |
| NV | 1.75 | 1.29 | 1.14 | 1.03 | 0.87 | 0.71 | 0.53 |
| OK | 1.58 | 1.18 | 1.06 | 0.94 | 0.80 | 0.66 | 0.51 |
| OR | 2.37 | 1.75 | 1.56 | 1.41 | 1.20 | 0.99 | 0.75 |
| RI | 2.12 | 1.55 | 1.39 | 1.25 | 1.07 | 0.88 | 0.67 |
| SC | 1.65 | 1.23 | 1.10 | 0.99 | 0.85 | 0.70 | 0.54 |
| SD | 1.77 | 1.31 | 1.16 | 1.05 | 0.89 | 0.72 | 0.54 |
| TN | 1.68 | 1.25 | 1.12 | 1.01 | 0.87 | 0.71 | 0.55 |
| TX | 2.49 | 1.90 | 1.70 | 1.51 | 1.30 | 1.05 | 0.78 |
| UT | 1.85 | 1.36 | 1.22 | 1.10 | 0.94 | 0.77 | 0.58 |
| VT | 1.75 | 1.28 | 1.15 | 1.03 | 0.88 | 0.73 | 0.55 |
| WI | 1.88 | 1.40 | 1.26 | 1.14 | 0.98 | 0.81 | 0.63 |

ITEM R-1403—2011 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS
—EXPECTED LOSS RANGES AND STATE HAZARD GROUP DIFFERENTIALS
—AND CREATION OF RETROSPECTIVE RATING PLAN MANUAL APPENDIX D

## EXHIBIT 2

## RETROSPECTIVE RATING PLAN MANUAL—1984 EDITION
## FLORIDA SPECIAL RATING VALUES
## 1. HAZARD GROUP DIFFERENTIALS

**(Applies in: FL)**

| State | Hazard Group | | | | | | |
|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G |
| FL | 2.21 | 1.70 | 1.50 | 1.37 | 1.19 | 0.95 | 0.67 |

# EXHIBIT 4
# RETROSPECTIVE RATING PLAN MANUAL—2009 EDITION
# APPENDIX D–BASIC PREMIUM FACTOR CALCULATION EXAMPLE
# (Applies in: AL, AK, AR, AZ, CO, CT, DC, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, TX, UT, VT, WI, WV)

## BASIC PREMIUM FACTOR CALCULATION EXAMPLE

The following example is for illustrative purposes only. It is not intended as a recommendation and is not to be interpreted as a recommendation. The factors used in the example have been filed and approved for use in certain states. Please refer to the rules and appendices in this manual or other NCCI manuals for the filed formulas and factors.

For this example, assume the Retrospective Rating Plan Agreement provides:

| | **Retrospective Rating Factors** | |
|---|---|---|
| a. | Estimated Standard Premium | $500,000 |
| b. | Maximum Retrospective Premium Factor | 130% |
| c. | Minimum Retrospective Premium Factor | 60% |
| d. | Loss Conversion Factor | 1.120 |
| e. | Tax Multiplier | 1.070 |
| f. | State Hazard Group Relativity | 1.80 |
| g. | Excess Loss Factor ($50,000 Loss Limit) | .360 |
| h. | Expenses from Expense Ratio Table | .201 |

**Example Calculation of the Basic Premium Factor**

The key to establishing the Basic Premium Factor for the Retrospective Rating Plan is the Table of Insurance Charges filed with state insurance departments. By expected loss groups, it indicates the factors to establish the premium charge that is vital to the determination of the Basic Premium Factor.

| | | |
|---|---|---|
| 1. | Estimated Standard Premium (a) | $500,000 |
| 2. | Expected Losses | $306,500 |
| 3. | Expected Loss Ratio | .613 |
| 4. | Expected Limited Loss Ratio (3) – (g) | .253 |
| 5. | Expense and Profit and Contingency (Excluding Taxes) (1) x (h) | $100,500 |
| 6. | Expected Loss Plus Expense Ratio [(2) + (5)] ÷ (1) | .814 |
| 7. | Loss and Expense in Converted Losses (3) x (d) | .687 |
| 8. | Expense and Profit and Contingency (Excluding Loss and Claim) (6) – (7) | .127 |
| 9. | Minimum Retrospective Premium Excluding Taxes [(c) ÷ (e)] | .561 |
| 10. | Maximum Retrospective Premium Excluding Taxes [(b) ÷ (e)] | 1.215 |
| 11. | Table of Insurance Charges Value Difference [(6) – (9)] ÷ [(d) x (4)] | .893 |
| 12. | Table of Insurance Charges Entry Difference [(10) – (9)] ÷ [(d) x (4)] | 2.31 |
| 13. | Ratio of Losses for Minimum Retrospective Premium to Expected Limited Losses | .02 |
| 14. | Ratio of Losses for Maximum Retrospective Premium to Expected Limited Losses | 2.33 |

**EXHIBIT 4 (CONT'D)**
**RETROSPECTIVE RATING PLAN MANUAL—2009 EDITION**
**APPENDIX D–BASIC PREMIUM FACTOR CALCULATION EXAMPLE**
**(Applies in: AL, AK, AR, AZ, CO, CT, DC, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, TX, UT, VT, WI, WV)**

| | | |
|---|---|---|
| 15. | Table of Insurance Charges—Premium Charge for (14) | .0883 |
| 16. | Table of Insurance Charges—Premium Savings for (13) | .0000 |
| 17. | Net Insurance Charge [(15) – (16)] x (4) x (d) | .025 |
| 18. | Basic Premium Factor (17) + (8) | .152 |

The use of the Table of Insurance Charges is accounted for in the following explanations and illustrations of how to determine the factors and other elements needed for the operation of the Plan.

**Note:** The procedures described here are designed exclusively for workers compensation and employers liability insurance. Rules for the application of a retrospective rating plan to a combination of workers compensation and employers liability insurance and other lines of casualty insurance are in the Retrospective Rating Plan Manual issued by the Insurance Services Office (ISO).

**Note:** The above calculations are based on the 1998 Table of Insurance Charges in Appendix B of the ***Retrospective Rating Plan Manual***.

The procedure for establishing the values and factors in the above examples follows:

**Line 1. Estimated Standard Premium:** This is the annual standard premium. *Refer to the **Retrospective Rating Plan Manual** for definition of standard premium.* For three-year retrospective rating plans, multiply the annual standard premium times three (3).

**Line 2. Expected Losses:** For an intrastate risk, the expected losses equal the estimated standard premium (Line 1) multiplied by the expected loss ratio for the state (Line 3). For the purpose of this example, it has been assumed that the risk is an intrastate risk with an expected loss ratio of .613, which produces expected losses of $306,500 ($500,000 x .613).

For an interstate risk, the expected losses equal the sum of the products of the estimated standard premium for each state and the corresponding expected loss ratio for each state. The expected loss ratio for the risk (Line 3) is obtained by dividing the total expected losses for all states covered by the Retrospective Rating Plan (Line 2) by the total standard premium (Line 1).

**Line 3. Expected Loss Ratio:** See the discussion for Line 2.

**Line 4. Expected Limited Loss Ratio:** This ratio is determined by subtracting the excess loss factor from the expected loss ratio.

**Line 5. Expense and Profit and Contingency—Excluding Taxes:** The expense and profit and contingency (excluding taxes) is determined, by multiplying the standard premium by the expense ratio.

For a three-year plan, values are determined similarly for each of the years based on each annual estimated standard premium, and the sum of these values is the provision for expense and profit and contingency. The value for expenses shown in this example is equal to $100,500 ($500,000 x .201).

**Line 6. Expected Loss Plus Expense Ratio:** This ratio is obtained by dividing the expected losses plus the expenses and profit and contingency (excluding taxes) by the standard premium.

## EXHIBIT 4 (CONT'D)
## RETROSPECTIVE RATING PLAN MANUAL—2009 EDITION
## APPENDIX D–BASIC PREMIUM FACTOR CALCULATION EXAMPLE
## (Applies in: AL, AK, AR, AZ, CO, CT, DC, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, TX, UT, VT, WI, WV)

**Line 7. Loss and Expense in Converted Losses:** This factor, which expresses the ratio of expected losses and expense to estimated standard premium, is the product of the expected loss ratio and the loss conversion factor.

**Line 8. Expense and Profit and Contingency in Basic Premium:** The difference between the factor in Line 6, representing the total net premium provision for the insured under the Retrospective Rating Plan, and the factor in Line 7, representing expected losses and loss adjustment expense associated with insuring the risk, is the expense and contingency amount, and must be included in the basic premium.

**Line 9. Minimum Premium Retrospective Factor—Excluding Taxes**

**Line 10. Maximum Premium Retrospective Factor—Excluding Taxes**

**Line 11. Table of Insurance Charges—Value Difference**

**Line 12. Table of Insurance Charges—Entry Difference**

Line 9 through Line 12 are determined in a way designed to facilitate the testing process by which the basic premium factor is established. The factors entered for these items are obtained as indicated in the example.

Line 11, Table of Insurance Charges—Value Difference, equals the difference between the table charge for the entry ratio from which the savings is taken and the table charge for the entry ratio from which the charge is taken.

Line 12, Table of Insurance Charges—Entry Difference, equals the difference between the entry ratios that determine the savings factor and the charge for the maximum premium.

To use the Table of Insurance Charges, find the loss group in the Table of Expected Loss Ranges containing the adjusted expected loss value. The adjusted expected loss value is calculated as follows:

Expected Losses (Line 2) x State Hazard Group Relativity x Loss Group Adjustment Factor

The Loss Group Adjustment Factor (F) applies when an individual loss limit is selected. The factor is:

$$F = \frac{1 + [(.8)(LER)]}{1 - LER}$$

where the LER = ELF ÷ Line (3) = .587

$$F = \frac{1 + [(.8)(.587)]}{1 - (.587)} = 3.558$$

State Hazard Group Relativity = 1.80

## EXHIBIT 4 (CONT'D)
## RETROSPECTIVE RATING PLAN MANUAL—2009 EDITION
## APPENDIX D–BASIC PREMIUM FACTOR CALCULATION EXAMPLE
## (Applies in: AL, AK, AR, AZ, CO, CT, DC, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, TX, UT, VT, WI, WV)

The adjusted expected loss value equals 1,962,949 (= 306,500 x 1.80 x 3.558). This expected loss value falls into expected loss group 30. *Refer to the 2008 Table of Expected Loss Ranges in the **Retrospective Rating Plan Manual**.*

Then, choose two entry ratios from the Expected Loss Group in the table with a difference equal to Line 12. Make this choice so that the difference in the charges for the Expected Loss Group and for the selected entries most closely approximates Line 11.

To illustrate this testing procedure, several entry ratios and their corresponding charges in Group 30 have been reproduced from the Table:

| Entry Ratio | Charges (Group 30) | Savings |
|---|---|---|
| .01 | .9900 | .0000 |
| .02 | .9800 | .0000 |
| .03 | .9700 | .0000 |

| Entry Ratio | Charges (Group 30) |
|---|---|
| 2.32 | .0888 |
| 2.33 | .0883 |
| 2.34 | .0877 |

Choose and list pairs of entry ratios with a difference equal to Line 12, in this case 2.31, and note the respective difference in these charges:

(.01, 2.32)(.9900 – .0888) = .9012

(.02, 2.33)(.9800 – .0883) = .8917

(.03, 2.34)(.9700 – .0877) = .8823

The pair of entry ratios whose charge difference most closely approximates Line 11, .893, is recorded under Lines 13 and 14. In this case, Line 13 is .02 and Line 14 is 2.33.

**Line 13. Ratio of Losses for Minimum Retrospective Premium to Expected Limited Losses**: See discussion for Line 12.

**Line 14. Ratio of Losses for Maximum Retrospective Premium to Expected Limited Losses**: See discussion for Line 12.

**Line 15. Table of Insurance Charges—Premium Charge for (14):** This is the premium charge for losses in excess of those provided by the maximum retrospective premium. It is obtained by reading from the table as shown in Line 12.

## EXHIBIT 4 (CONT'D)
## RETROSPECTIVE RATING PLAN MANUAL—2009 EDITION
## APPENDIX D–BASIC PREMIUM FACTOR CALCULATION EXAMPLE
## (Applies in: AL, AK, AR, AZ, CO, CT, DC, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, TX, UT, VT, WI, WV)

**Line 16. Table of Insurance Charges—Premium Savings for (13):** This is the premium savings for losses less than those that would produce the minimum retrospective premium. The values for premium savings are listed directly beneath the charge values in the Table of Insurance Charges. In this example, the savings of .0000 for entry ratio .02 (Line 13) in Group 30 is found directly beneath the charge value of .9800.

**Line 17. Net Insurance Charge:** The net insurance charge is determined by calculating the difference between the charge for possible losses that might produce more than the maximum retrospective premium and the savings for losses that might produce less than the minimum retrospective premium, and then multiplying that difference by the product of the expected loss ratio and the loss conversion factor. The net insurance charge may be less than zero, as long as the basic premium factor is not negative.

**Line 18. Basic Premium Factor:** The basic premium factor is the sum of the net premium charge and the expenses and profit and contingencies in the basic premium expressed as a percentage of the standard premium. The standard premium multiplied by the basic premium factor produces the basic premium used in computing the retrospective rating plan premium.