THE WORKERS' COMPENSATION
RATING AND INSPECTION BUREAU OF MASSACHUSETTS
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January 7, 1993

CIRCULAR LETTER NO. 1616

To: **All Members and Subscribers of the Bureau:**

REVISED ALL RISK ADJUSTMENT PROGRAM [ARAP] EXPERIENCE RATING PLAN MANUAL
EFFECTIVE JANUARY 1, 1993

The Commissioner of Insurance has approved a revised All Risk Adjustment Program [ARAP] formula to be used in calculating factors, effective on and after January 1, 1993.

This revised formula (EXHIBIT 1) yields somewhat higher factors than under the formula which had been in existence since January 1, 1990, as shown in the ARAP tables (EXHIBITS 2 and 3). It is important to note that ARAP factors are computed by formula and not drawn from the attached tables. These tables are for illustrative purposes only. It should also be noted that the maximum ARAP factor is now 1.61 as opposed to the 1.49 previously in effect.

Any policy which is issued subject to the Massachusetts Assigned Risk Rating Plan, or any policy which would be subject to the Plan if it were written in the Residual Market, will not be subject to this revised formula. Rather the ARAP factor applied to such policy shall be calculated using the formula in effect prior to January 1, 1993.

The Bureau will calculate the ARAP factors using both formulas, and display the results on each Experience Rating Calculation. It will be the carrier's responsibility to select the appropriate factor applicable to the policy being issued.

If, at policy issuance, it is determined that the policy qualifies for the Massachusetts Assigned Risk Rating Plan, or would qualify for such Plan if it were written in the Residual Market, and the appropriate "Large Risk ARAP" surcharge was applied, a second test of eligibility will be conducted at final audit. If, due to the final audited Standard Premium, the policy which was deemed eligible for the Plan is determined to be ineligible, the ARAP factor, as calculated under the revised formula will be applied retroactively to the inception of the policy.

Attached EXHIBIT 4 contains Experience Rating Plan Manual Massachusetts State Special Rules implementing this Program.

This revised Program applies to new and renewal All Risk Adjustment [ARAP] factors effective on and after 12:01 A.M., January 1, 1993.

Reprint manual pages will be distributed in due course by the National Council.

NORMAN R. FONTAINE
Vice President of Industry Affairs

NRF/pw/3090
Enclosure

Proposed ARAP Surcharge Calculation

Part A: Criteria for ARAP Eligibility

In order for an insured to be eligible for the ARAP surcharge, it must meet the following two conditions:

1. The insured must be eligible for experience rating, either on an Intrastate or Interstate basis.

2. The "R" value for the insured must be greater than 1.0.

Part B: Input Needed to Calculate the "R" Value

To determine whether the "R" value for the insured is greater than 1.0, the following information is needed from the experience rating calculation using Massachusetts data only:

W = The weighting value, calculated on an intrastate basis

A = The actual losses, as limited on a per accident basis

Ap = The actual primary losses

E = The total expected losses

Ep = The expected primary losses

M = The normal experience modification, calculated on an intrastate basis

Part C: Calculation of "R" Value

To determine the "R" value (i.e., the weighted test ratio), we put the numbers from Part B into the formula:

$$R = \frac{(0.5 - 0.5W) \times Ap}{(M \times Ep)} + \frac{(0.5 + 0.5W) \times A}{(M \times E)}$$

Part D: Calculation of Surcharge Factor

To determine the surcharge factor (called S) for qualified risks, we use the formula:

$$S = 1 + \left[\frac{.10 \times E \times ((R-1)^{1.25})}{(E + 3)^{0.5}} \right]$$

Any risk which is, or any risk which would become subject to the Massachusetts Assigned Risk Rating Plan if written in the residual market, shall not be subject to this revised Program. The following formula is used:

$$S = 1 + \left[\frac{(.08 \times E \times ((R-1)^{1.25}))}{(E + 3)^{0.5}}\right]$$

In both cases, E (expected losses), is put in terms of thousands, and may not exceed 40, while R may not exceed 2.0.

Exhibit 2

ARAP Adjustment Factors
Expected Losses (S000)

R	5	10	15	20	25	30	35	40 +
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.02	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.04	1.00	1.00	1.01	1.01	1.01	1.01	1.01	1.01
1.06	1.00	1.01	1.01	1.01	1.01	1.01	1.01	1.01
1.08	1.01	1.01	1.01	1.01	1.02	1.02	1.02	1.02
1.10	1.01	1.01	1.02	1.02	1.02	1.02	1.03	1.03
1.12	1.01	1.02	1.02	1.02	1.03	1.03	1.03	1.03
1.14	1.01	1.02	1.02	1.03	1.03	1.04	1.04	1.04
1.16	1.01	1.02	1.03	1.03	1.04	1.04	1.05	1.05
1.18	1.02	1.03	1.03	1.04	1.04	1.05	1.05	1.06
1.20	1.02	1.03	1.04	1.04	1.05	1.06	1.06	1.07
1.22	1.02	1.03	1.04	1.05	1.06	1.06	1.07	1.07
1.24	1.02	1.04	1.05	1.06	1.06	1.07	1.08	1.08
1.26	1.03	1.04	1.05	1.06	1.07	1.08	1.08	1.09
1.28	1.03	1.05	1.06	1.07	1.08	1.09	1.09	1.10
1.30	1.03	1.05	1.06	1.07	1.08	1.09	1.10	1.11
1.32	1.03	1.05	1.07	1.08	1.09	1.10	1.11	1.12
1.34	1.04	1.06	1.07	1.09	1.10	1.11	1.12	1.13
1.36	1.04	1.06	1.08	1.09	1.11	1.12	1.13	1.14
1.38	1.04	1.07	1.08	1.10	1.11	1.12	1.14	1.15
1.40	1.04	1.07	1.09	1.11	1.12	1.13	1.14	1.16
1.42	1.05	1.08	1.10	1.11	1.13	1.14	1.15	1.16
1.44	1.05	1.08	1.10	1.12	1.14	1.15	1.16	1.17
1.46	1.05	1.08	1.11	1.13	1.14	1.16	1.17	1.18
1.48	1.06	1.09	1.11	1.13	1.15	1.17	1.18	1.19
1.50	1.06	1.09	1.12	1.14	1.16	1.18	1.19	1.21
1.52	1.06	1.10	1.12	1.15	1.17	1.18	1.20	1.22
1.54	1.07	1.10	1.13	1.15	1.17	1.19	1.21	1.23
1.56	1.07	1.11	1.14	1.16	1.18	1.20	1.22	1.24
1.58	1.07	1.11	1.14	1.17	1.19	1.21	1.23	1.25
1.60	1.07	1.12	1.15	1.18	1.20	1.22	1.24	1.26
1.62	1.08	1.12	1.16	1.18	1.21	1.23	1.25	1.27
1.64	1.08	1.13	1.16	1.19	1.22	1.24	1.26	1.28
1.66	1.08	1.13	1.17	1.20	1.22	1.25	1.27	1.29
1.68	1.09	1.14	1.17	1.21	1.23	1.26	1.28	1.30
1.70	1.09	1.14	1.18	1.21	1.24	1.27	1.29	1.31
1.72	1.09	1.15	1.19	1.22	1.25	1.28	1.30	1.32
1.74	1.10	1.15	1.19	1.23	1.26	1.29	1.31	1.33
1.76	1.10	1.16	1.20	1.24	1.27	1.30	1.32	1.35
1.78	1.10	1.16	1.21	1.24	1.28	1.31	1.33	1.36
1.80	1.11	1.17	1.21	1.25	1.29	1.32	1.34	1.37
1.82	1.11	1.17	1.22	1.26	1.29	1.33	1.35	1.38
1.84	1.11	1.18	1.23	1.27	1.30	1.34	1.37	1.39
1.86	1.12	1.18	1.23	1.28	1.31	1.35	1.38	1.40
1.88	1.12	1.19	1.24	1.28	1.32	1.36	1.39	1.42
1.90	1.12	1.19	1.25	1.29	1.33	1.37	1.40	1.43
1.92	1.13	1.20	1.25	1.30	1.34	1.38	1.41	1.44
1.94	1.13	1.21	1.26	1.31	1.35	1.39	1.42	1.45
1.96	1.13	1.21	1.27	1.32	1.36	1.40	1.43	1.46
1.98	1.14	1.22	1.28	1.33	1.37	1.41	1.44	1.48
2.00	1.14	1.22	1.28	1.33	1.38	1.42	1.45	1.49

Note: Actual ARAP adjustments are computed via formula and not from this table. This table was produced by applying the ARAP formula for the specific values listed.

Exhibit 3

Massachusetts Workers' Compensation
Alternate ARAP Adjustment Factors
Expected Losses ($000)

R	5	10	15	20	25	30	35	40 & over*
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.02	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.04	1.00	1.00	1.01	1.01	1.01	1.01	1.01	1.01
1.06	1.01	1.01	1.01	1.01	1.01	1.02	1.02	1.02
1.08	1.01	1.01	1.02	1.02	1.02	1.02	1.02	1.03
1.10	1.01	1.02	1.02	1.02	1.03	1.03	1.03	1.03
1.12	1.01	1.02	1.02	1.03	1.03	1.04	1.04	1.04
1.14	1.02	1.02	1.03	1.04	1.04	1.04	1.05	1.05
1.16	1.02	1.03	1.04	1.04	1.05	1.05	1.06	1.06
1.18	1.02	1.03	1.04	1.05	1.06	1.06	1.07	1.07
1.20	1.02	1.04	1.05	1.06	1.06	1.07	1.08	1.08
1.22	1.03	1.04	1.05	1.06	1.07	1.08	1.09	1.09
1.24	1.03	1.05	1.06	1.07	1.08	1.09	1.10	1.10
1.26	1.03	1.05	1.07	1.08	1.09	1.10	1.11	1.11
1.28	1.04	1.06	1.07	1.08	1.10	1.11	1.12	1.12
1.30	1.04	1.06	1.08	1.09	1.10	1.12	1.13	1.14
1.32	1.04	1.07	1.09	1.10	1.11	1.13	1.14	1.15
1.34	1.05	1.07	1.09	1.11	1.12	1.14	1.15	1.16
1.36	1.05	1.08	1.10	1.12	1.13	1.15	1.16	1.17
1.38	1.05	1.08	1.11	1.12	1.14	1.16	1.17	1.18
1.40	1.06	1.09	1.11	1.13	1.15	1.17	1.18	1.19
1.42	1.06	1.09	1.12	1.14	1.16	1.18	1.19	1.21
1.44	1.06	1.10	1.13	1.15	1.17	1.19	1.20	1.22
1.46	1.07	1.11	1.13	1.16	1.18	1.20	1.22	1.23
1.48	1.07	1.11	1.14	1.17	1.19	1.21	1.23	1.24
1.50	1.07	1.12	1.15	1.18	1.20	1.22	1.24	1.26
1.52	1.08	1.12	1.16	1.18	1.21	1.23	1.25	1.27
1.54	1.08	1.13	1.16	1.19	1.22	1.24	1.26	1.28
1.56	1.09	1.13	1.17	1.20	1.23	1.25	1.28	1.30
1.58	1.09	1.14	1.18	1.21	1.24	1.26	1.29	1.31
1.60	1.09	1.15	1.19	1.22	1.25	1.28	1.30	1.32
1.62	1.10	1.15	1.19	1.23	1.26	1.29	1.31	1.34
1.64	1.10	1.16	1.20	1.24	1.27	1.30	1.33	1.35
1.66	1.11	1.16	1.21	1.25	1.28	1.31	1.34	1.36
1.68	1.11	1.17	1.22	1.26	1.29	1.32	1.35	1.38
1.70	1.11	1.18	1.23	1.27	1.30	1.33	1.36	1.39
1.72	1.12	1.18	1.23	1.28	1.31	1.35	1.38	1.40
1.74	1.12	1.19	1.24	1.29	1.32	1.36	1.39	1.42
1.76	1.13	1.20	1.25	1.30	1.34	1.37	1.40	1.43
1.78	1.13	1.20	1.26	1.31	1.35	1.38	1.42	1.45
1.80	1.13	1.21	1.27	1.32	1.36	1.40	1.43	1.46
1.82	1.14	1.22	1.28	1.33	1.37	1.41	1.44	1.48
1.84	1.14	1.22	1.28	1.34	1.38	1.42	1.46	1.49
1.86	1.15	1.23	1.29	1.35	1.39	1.43	1.47	1.51
1.88	1.15	1.24	1.30	1.36	1.40	1.45	1.48	1.52
1.90	1.15	1.24	1.31	1.37	1.41	1.46	1.50	1.53
1.92	1.16	1.25	1.32	1.38	1.43	1.47	1.51	1.55
1.94	1.16	1.26	1.33	1.39	1.44	1.48	1.53	1.56
1.96	1.17	1.26	1.34	1.40	1.45	1.50	1.54	1.58
1.98	1.17	1.27	1.34	1.41	1.46	1.51	1.55	1.59
2.00	1.18	1.28	1.35	1.42	1.47	1.52	1.57	1.61

* Not applicable to any risk which is, or any risk which would be, subject to the Massachusetts Assigned Risk Rating
  Plan if written in the residual market.

Note: Actual ARAP adjustments are computed via formula and not from this table. This table was produced by
  applying the ARAP formula for the specific values listed.

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STATE SPECIAL RULES

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ALL RISK ADJUSTMENT PROGRAM

PART ONE
DESCRIPTION OF PLAN

Add to 1.   Introduction:

The rules in this manual also apply to the All Risk Adjustment Program [ARAP], subject to the following amendments:

Add to 1.A.2. Object of Plan:

The object of the All Risk Adjustment Program [ARAP] is to provide a revised pricing mechanism for experience rated risks to share in the underwriting losses they generate.

Add to 11.F.   Experience Rating Modification:

The All Risk Adjustment Program [ARAP] surcharge factor, expressed as a debit percentage, is calculated following calculation of the experience rating modification and is applied to Standard Premium to surcharge risks with a record of losses greater than expected under the experience rating plan, and is subject to recalculation and application to audited Standard Premium depending on the size of the audited Standard Premium.

Add to 111.A. Eligibility of the Plan:

A risk shall be eligible for the All Risk Adjustment Program [ARAP] if it is eligible for experience rating, either on an Intrastate or Interstate basis, and the "R" value for the insured is greater than 1.0 as shown in PART TWO OPERATION OF THE PLAN A. EXPERIENCE MODIFICATION FORMULAS 10.c.

PART TWO
OPERATION OF THE PLAN

Add to A.   Experience Modification Formulas:

10. The All Risk Adjustment Program [ARAP] Surcharge Factor for eligible risks is determined as follows:

   a. After the calculation of the experience modification factor [M] for a particular risk, the weighted test ratio [R] is calculated.

   b. Input Needed to Calculate the "R" Value

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To determine whether the "R" value for the insured is greater than 1.0, the following information is needed from the experience rating calculation using Massachusetts data only:

W = The weighting value, calculated on an intrastate basis

A = The actual losses, as limited on a per accident basis

Ap = The actual primary losses

E = The total expected losses

Ep = The expected primary losses

M = The normal experience modification, calculated on an intrastate basis

c. Calculation of "R" Value

To determine the "R" value [weighted test ratio], the numbers derived from a. above are inserted into the formula:

$$R = \frac{((0.5 - 0.5W) \times Ap)}{(M \times Ep)} + \frac{((0.5 + 0.5W) \times A)}{(M \times E)}$$

d. Calculation of Surcharge Factor

To determine the surcharge factor [called S] for qualified risks, the following formula is used:

$$S = 1 + \left[\frac{(.10 \times E \times ((R-1)^{1.25}))}{(E + 3)^{0.5}}\right]$$

The maximum ARAP surcharge factor based on this formula is 1.61.

To determine the surcharge factor [called S] for any risk which is, or any risk which would become subject to the Massachusetts Assigned Risk Rating Plan if written in the residual market, the following formula is used:

$$S = 1 + \left[\frac{(.08 \times E \times ((R-1)^{1.25}))}{(E + 3)^{0.5}}\right]$$

The maximum ARAP surcharge factor based on this formula is 1.49.

In both cases, E [expected losses], is put in terms of thousands and may not exceed 40, while R may not exceed 2.0.

Effective January 1, 1993

e. Surcharge factors will appear on all Experience Rating Calculation forms when applicable. This Surcharge factor is applied to Standard Premium after experience rating.

PART THREE
ADMINISTRATION OF THE PLAN

Add to E. **Application of Experience Modification:**

6. Changes in Experience Modifications

c.4. The audit of a policy with estimated total annual Standard Premium eligible for the Massachusetts Assigned Risk Rating Plan which, if as the result of such audit, is determined to be ineligible for that Plan. The revised All Risk Adjustment Program Factor will be applied retroactively to the inception of the policy.

PART FOUR
SPECIAL RULES FOR RISKS WITH MULTI-STATE OPERATIONS

Add to 2. **Experience Modification Formula:**

Experience rated risks with multi-state operations shall be subject to the All Risk Adjustment Program [ARAP] for that portion of the risk in Massachusetts. The All Risk Adjustment Program [ARAP] surcharge shall be calculated using Massachusetts losses and expected losses. The All Risk Adjustment [ARAP] surcharge shall be applied to the Massachusetts portion of the risks.

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