

RULES – IMPLEMENTATION

APRIL 16, 2019

COMMERCIAL MULTIPLE LINE

LI-ML-2019-005

## NORTH DAKOTA COMMERCIAL PACKAGE POLICY REVISED PACKAGE MODIFICATION FACTOR REVISION TO BE IMPLEMENTED

---

### KEY MESSAGE

Revised Commercial Package Policy package modification factors for an overall statewide change of -1.9% to be implemented.

---

### BACKGROUND

In circular [LI-ML-2019-004](#), we provided you with information about the Commercial Package Policy modification factor experience review.

---

### ISO ACTION

We are implementing ML-2019-RLA1, which presents a review of Commercial Package Policy modification factors experience. Refer to the attachment(s) for complete details.

---

### EFFECTIVE DATE

The ISO revision is subject to the following rule of application:

These changes are applicable to all policies written on or after November 1, 2019.

---

### COMPANY ACTION

If you have authorized us to file on your behalf and decide:

- To use our revision and effective date, you are not required to file anything with the Insurance Department.
- To use our revision with a different effective date, to use our revision with modification, or to not use our revision, you must make an appropriate submission with the Insurance Department.

For guidance on submission requirements, consult the ISO State Filing Handbook.

WE WILL SUBMIT THIS REVISION TO THE INSURANCE DEPARTMENT ON OCTOBER 22, 2019. IF STATE FILING REQUIREMENTS DICTATE THAT YOU MAKE A SUBMISSION WITH THE INSURANCE DEPARTMENT, DO NOT SUBMIT IT PRIOR TO THIS DATE.

In all correspondence with the Insurance Department on this revision, you should refer to ISO Filing Designation Number ML-2019-RLA1, NOT this circular number. Communications with the regulator concerning a filing affecting multiple lines of business (i.e., CL, PL, AL filing designation) should specify the line(s) of business that you are addressing.

---

## RATING SOFTWARE IMPACT

No new attributes are being introduced with this revision.

---

## POLICYHOLDER NOTIFICATION

If you decide to implement this revision, you should check all applicable laws for the state(s) to which this revision applies, to determine whether or not a specific policyholder notice requirement may apply. Please note that circular [LI-CL-2018-044](#) contains the ISO Guide To Renewals With Changed Conditions For Commercial Lines, which is available only as a guide to assist participating companies in complying with various conditional renewal statutes or regulations, for the major commercial lines of insurance serviced by ISO. The information in the Guide does not necessarily reflect all requirements or exceptions that may apply, and it is not intended as a substitute for your review of all applicable statutes and regulations concerning policyholder notification.

---

## REVISION DISTRIBUTION

We will issue a Notice to Manualholders with an edition date of 11-19 (or the earliest possible subsequent date), along with any new and/or revised manual pages.

---

## REFERENCE(S)

- [LI-ML-2019-004](#) (04/03/2019) Commercial Package Policy Experience Reviewed By Staff
- [LI-CL-2018-044](#) (11/27/2018) Revised Lead Time Requirements Listing

---

## ATTACHMENT(S)

Filing [ML-2019-RLA1](#)

---

## FILES AVAILABLE FOR DOWNLOAD

To download all files associated with this circular, including attachments in the full circular PDF and/or any additional files not included in the PDF, search for the circular number on [ISOnet Circulars](#). Then click the Word/Excel link under the Full Circular column on the Search Results screen.

Please note that in some instances, not all files listed in the Attachment(s) block (if applicable) are included in the PDF.

---

## COPYRIGHT EXPLANATION

The material distributed by Insurance Services Office, Inc. is copyrighted. All rights reserved. Possession of these pages does not confer the right to print, reprint, publish, copy, sell, file, or use same in any manner without the written permission of the copyright owner. Permission is hereby granted to members, subscribers, and service purchasers to reprint, copy, or otherwise use the enclosed material for purposes of their own business use relating to that territory or line or kind of insurance, or subdivision thereof, for which they participate, provided that:

- (A) Where ISO copyrighted material is reprinted, copied, or otherwise used **as a whole**, it must reflect the copyright notice actually shown on such material.
- (B) Where ISO copyrighted material is reprinted, copied, or otherwise used **in part**, the following credit legend must appear at the bottom of each page so used:  
Includes copyrighted material of Insurance Services Office, Inc., with its permission.

---

## ACKNOWLEDGMENT OF ACTUARIAL QUALIFICATIONS

The American Academy of Actuaries' "Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States" requires that an actuary issuing a Statement of Actuarial Opinion should include an acknowledgment with the opinion that he/she has met the qualification standards of the AAA. ISO considers this rule revision a Statement of Actuarial Opinion; therefore we are including the following acknowledgment:

I, Rimma Maasbach, am an Actuarial Consultant in Actuarial Operations for ISO, and I, Bei Zhou, am an Actuarial Product Director for Commercial Property for ISO. We are jointly responsible for the content of this Statement of Actuarial Opinion. We are both members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

---

## CONTACT INFORMATION

If you have any questions concerning:

- The actuarial content of this circular, please contact:

Yinglu Fan  
Actuarial Operations  
201-469-2134  
[Yinglu.Fan@verisk.com](mailto:Yinglu.Fan@verisk.com)  
[propertyactuarial@verisk.com](mailto:propertyactuarial@verisk.com)

- The non-actuarial content of this circular, please contact:

Evan Dattolo  
Production Operations, Compliance and Product Services  
201-469-2895  
[productionoperations@verisk.com](mailto:productionoperations@verisk.com)

- Other issues for this circular, please contact Customer Support:

E-mail: [info@verisk.com](mailto:info@verisk.com)  
Phone: 800-888-4476

Callers outside the United States, Canada, and the Caribbean may contact us using our global toll-free number (International Access Code + 800 48977489). For information on all ISO products, visit us at [www.verisk.com/iso](http://www.verisk.com/iso). To keep abreast of the latest Insurance Lines Services updates, view [www.verisk.com/ils](http://www.verisk.com/ils).

# NORTH DAKOTA

## ADVISORY PACKAGE MODIFICATION FACTOR REVIEW

### COMMERCIAL PACKAGE POLICY

ML-2019-RLA1

#### EXECUTIVE SUMMARY

---

#### PURPOSE

This document:

- presents a review of advisory Package Modification Factors (PMFs). PMFs are relativity factors used to adjust monoline loss costs as appropriate for multiline risks.
  - provides the analyses used to derive these advisory PMFs.
- 

#### PMF CHANGES

The proposed Commercial Package Policy (CPP) Package Modification Factor changes are:

<u>Type of Policy</u>	<u>Property</u>	<u>Liability</u>	<u>Prop. &amp; Liab. Total</u>
Motel/Hotel	0.0%	0.0%	0.0%
Apartment	-1.0%	0.0%	-0.9%
Office	-3.2%	0.0%	-1.5%
Mercantile	-6.0%	0.0%	-4.6%
Institutional	-6.3%	+5.3%	-4.5%
Services	0.0%	0.0%	0.0%
Indust./Proc.	-3.0%	0.0%	-1.6%
Contractors	<u>0.0%</u>	<u>0.0%</u>	<u>0.0%</u>
Statewide	-3.1%	+0.1%	-1.9%

---

#### INDICATED VS. CAPPED

Indicated PMF changes are based on standard ISO methodology. Differences between indicated and capped PMF changes are caused by rounding each indicated PMF to the nearest one percent and applying an upper cap of 1.00, where necessary.

---

# NORTH DAKOTA

## ADVISORY PACKAGE MODIFICATION FACTOR REVIEW

### COMMERCIAL PACKAGE POLICY

ML-2019-RLA1

#### EXECUTIVE SUMMARY

---

##### HISTORICAL SOURCE DATA

The data used in this review is from ISO reporting companies for:

- Basic Group I: five fiscal accident years ending 12/31/17.
  - Basic Group II: ten fiscal accident years ending 12/31/17.
  - Special Causes of Loss: five fiscal accident years ending 12/31/17.
  - Crime: calendar year ending 06/30/16.
  - Inland Marine: five calendar accident years ending 12/31/16.
  - Fidelity: policy year ending 12/31/15.
  - Owners, Landlords, and Tenants: five fiscal accident years ending 12/31/17.
  - Manufacturers and Contractors: five fiscal accident years ending 12/31/17.
  - Products: three calendar accident years ending 12/31/17.
  - Local Products and Completed Operations: three calendar accident years ending 12/31/17.
- 

##### PRIOR ISO REVISIONS

The latest revisions in this state are:

<u>Filing</u>	ML-17-RLA1	ML-09-RLA1	ML-07-RLA1
<u>Dates</u>			
Implemented	11/01/17	01/01/10	01/01/08
<u>Changes</u>			
Indicated	+1.8%	-0.8%	-1.6%
Filed	+1.8%	-0.8%	-1.6%
Implemented	+1.8%	-0.8%	-1.6%

NORTH DAKOTA  
ADVISORY PACKAGE MODIFICATION FACTOR REVIEW

COMMERCIAL PACKAGE POLICY

ML-2019-RLA1

EXECUTIVE SUMMARY

---

ADJUSTMENTS  
TO REPORTED  
EXPERIENCE

Standard actuarial procedures have been used in the reviews underlying the calculation of the PMFs, including adjusting the fire and liability losses to ultimate settlement level and, for all coverages, reflecting all loss adjustment expenses and trend. Specific procedures vary by subline.

---

TEN LARGEST  
GROUPS IN  
ISO DATA BASE

Insurers are listed in descending order based on the percent of statewide written premium volume from Annual Statement Page 15 for the year ending 12/31/17 for the Annual Statement Line of Business (ASLOB) indicated.

COMMERCIAL MULTI PERIL (ASLOB 51 & 52)

1. Travelers Indemnity Company
  2. Admiral Insurance Company
  3. Cincinnati Insurance Company
  4. Acuity, A Mutual Insurance Company
  5. State Auto Mutual Insurance Company
  6. Tokio Marine Companies
  7. Nodak Mutual Insurance Company
  8. Continental Casualty Company
  9. QBE Insurance Corporation
  10. Liberty Mutual Insurance Company
- 

SIZE OF ISO  
DATA BASE

The market share of ISO participating insurers as measured by Annual Statement Page 15 written premium for the year ending 12/31/17 is:

Commercial Multi Peril (ASLOB 51 & 52). 48.4%.

---

ADDITIONAL  
SUPPORTING  
MATERIAL

Additional supporting material underlying the calculation of the experience review indications used in this PMF analysis may be found in the respective monoline experience review documents for each line.

---

NORTH DAKOTA  
ADVISORY PACKAGE MODIFICATION FACTOR REVIEW  
COMMERCIAL PACKAGE POLICY  
ML-2019-RLA1  
EXECUTIVE SUMMARY

---

COMPANY DECISION

We encourage each insurer to decide independently whether the judgments made and the procedures or data used by ISO in developing the PMFs contained herein are appropriate for your use. We have included within this document the information upon which ISO relied in order to enable companies to make such independent judgments. The data underlying the enclosed material comes from companies reporting to Insurance Services Office, Inc. Therefore, the ISO experience permits the establishment of a much broader statistical ratemaking base than could be employed by using any individual company's data. A broader data base enhances the validity of ratemaking analysis derived therefrom.

At the same time, however, an individual company may benefit from a comparison of its own experience to the aggregate ISO experience, and may reach valid conclusions with respect to the manner in which its own costs can be expected to differ from ISO's projection based on the aggregate data.

Some calculations included in this document involve areas of ISO staff judgment. Each company should carefully review and evaluate whether the ISO selected PMFs are appropriate for its use.

The material has been developed exclusively by the staff of Insurance Services Office, Inc.

---

## COMMERCIAL PACKAGE POLICY

### TABLE OF CONTENTS

#### SECTION A - SCOPE OF PMF REVISION

Methodology Overview .....	A-2
Summary of Package Modification Factor (PMF) Review (Table 1) .....	A-3
Calculation of Revised Package Modification Factors (Table 2) .....	A-4-12

#### SECTION B - CALCULATION OF PROPOSED CHANGES

##### PROPERTY COVERAGES

Commercial Fire & Allied Lines	
Distribution of Advisory Loss Cost Level Change (Tables 3-7) .....	B-2-20
Crime and Fidelity.....	B-21
Commercial Inland Marine (Tables 8-9).....	B-22-26

##### LIABILITY COVERAGES

Distribution of Advisory Loss Cost Level Change (Tables 10-18) .....	B-27-44
--	---------

#### SECTION C - REVISED CLM DIVISION NINE

Commercial Package Policy Package Modification Factors (Revised MLCP-PMF-1).....	C-2
--	-----



COMMERCIAL PACKAGE POLICY

TABLE OF CONTENTS

SECTION A - SCOPE OF PMF REVISION

Methodology Overview .....	A-2
Summary of Package Modification Factor (PMF) Review (Table 1) .....	A-3
Calculation of Revised Package Modification Factors (Table 2) .....	A-4-12

## COMMERCIAL PACKAGE POLICY METHODOLOGY OVERVIEW

---

### OBJECTIVE

A Commercial Package Policy (CPP) is essentially a combination of monoline coverages. CPP pricing employs monoline loss costs modified by Package Modification Factors (PMFs). These factors vary by the eight CPP types of policy and are reviewed annually. Monoline and multiline experience are combined and reviewed via a monoline/multiline relativity analysis. The resulting indicated PMFs represent the loss cost for a CPP relative to that for monoline policies providing the same coverages.

---

### STEP 1: THE RELATIVITY ANALYSES

Each line of insurance develops indicated changes to monoline and multiline aggregate loss costs based on an experience ratio relativity analysis for that coverage. The monoline indication represents the needed change to monoline loss costs. The multiline indication represents the needed change to multiline aggregate loss costs, which is implemented through changes to the PMFs. For this PMF analysis, multiline indications are developed for each line of insurance and Type of Policy. Relativity analyses are explained in Section B.

---

### STEP 2: CALCULATION OF THE PMFs

The procedure described above generates indicated Implicit PMFs (IPMFs) which vary by the various lines of insurance and by type of policy. IPMFs represent what the PMF would be for the CPP risk if only a single coverage were written. For each Type of Policy, IPMFs are weighted by CPP aggregate loss costs to determine the indicated property and liability PMFs. These PMFs may be capped, or rounded to the nearest one percent, and certain component IPMFs appropriately adjusted for this change. These calculations are explained in the remainder of Section A.

---

NORTH DAKOTA

TABLE 1  
COMMERCIAL PACKAGE POLICY

SUMMARY OF THIS REVIEW

The display below summarizes the review and shows the capped Package Modification Factors for Property and Liability. For each type of risk, the PMFs are determined to be those factors which when applied to the monoline loss costs produce the appropriate CPP aggregate loss cost level as determined by an analysis of the CPP experience.

TYPE OF POLICY	PROPERTY PMFS			LIABILITY PMFS			PROP. & LIAB. TOTAL
	CURRENT	CAPPED	% CHANGE	CURRENT	CAPPED	% CHANGE	% CHANGE
MOTEL/HOTEL (31)	1.00	1.00	0.0%	1.00	1.00	0.0%	0.0%
APARTMENT (32)	1.00	0.99	-1.0%	1.00	1.00	0.0%	-0.9%
OFFICE (33)	0.95	0.92	-3.2%	1.00	1.00	0.0%	-1.5%
MERCANTILE (34)	1.00	0.94	-6.0%	1.00	1.00	0.0%	-4.6%
INSTITUTION (35)	0.95	0.89	-6.3%	0.95	1.00	5.3%	-4.5%
SERVICES (36)	1.00	1.00	0.0%	1.00	1.00	0.0%	0.0%
IND/PROC (37)	1.00	0.97	-3.0%	1.00	1.00	0.0%	-1.6%
CONTRACTORS (38)	1.00	1.00	0.0%	1.00	1.00	0.0%	0.0%
STATEWIDE			-3.1%			0.1%	-1.9%

NORTH DAKOTA  
TABLE 2  
COMMERCIAL PACKAGE POLICY  
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS (PMF)

MOTEL/HOTEL (31) *****	(1) AGGREG- ATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
<u>COVERAGE</u>					
PROPERTY-					
BASIC GRP I	409,295	1.093	-1.3%	1.079	1.122
BASIC GRP II	242,956	0.878	-7.3	0.814	0.846
SP CAUSE/LOSS	87,382	0.958	-2.7	0.932	0.969
*CRIME	897	0.835	0.0	0.835	0.835
*INL. MAR.	756	0.910	0.0	0.910	0.910
*FIDELITY	4,998	1.000	0.0	1.000	1.000
<u>TOTAL</u>	<u>746,284</u>	<u>1.00</u>	<u>-3.8%</u>	<u>0.962</u>	<u>1.00</u>
LIABILITY-					
OL&T	297,527	1.000	10.1%	1.101	1.000
<u>TOTAL</u>	<u>297,527</u>	<u>1.00</u>	<u>10.1%</u>	<u>1.101</u>	<u>1.00</u>
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	1,043,811		0.2%		

  

APARTMENT (32) *****	(1) AGGREG- ATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
<u>COVERAGE</u>					
PROPERTY-					
BASIC GRP I	545,961	0.831	-1.3%	0.820	0.822
BASIC GRP II	898,845	1.103	-3.2	1.068	1.071
SP CAUSE/LOSS	277,637	1.184	-2.7	1.152	1.155
*CRIME	224	0.835	0.0	0.835	0.835
*INL. MAR.	0	0.910	0.0	0.910	0.910
*FIDELITY	2,182	1.000	0.0	1.000	1.000
<u>TOTAL</u>	<u>1,724,849</u>	<u>1.00</u>	<u>-1.6%</u>	<u>0.984</u>	<u>0.99</u>
LIABILITY-					
OL&T	164,156	1.000	2.1%	1.021	1.000
<u>TOTAL</u>	<u>164,156</u>	<u>1.00</u>	<u>2.1%</u>	<u>1.021</u>	<u>1.00</u>
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	1,889,005		-1.3%		

\* indicates coverage for which reviews are on a MULTISTATE basis.

NORTH DAKOTA  
TABLE 2  
COMMERCIAL PACKAGE POLICY  
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS (PMF)

OFFICE (33) *****	(1)	(2)	(3)	(4)	(5)
	AGGREGATE <u>LOSS COSTS</u>	CURRENT IMPLICIT <u>PMF</u>	NET <u>INDICATION</u>	INDIC. <u>PMF</u>	CAPPED <u>PMF</u>
COVERAGE					
PROPERTY-					
BASIC GRP I	177,863	1.239	0.1%	1.240	1.256
BASIC GRP II	263,835	0.768	-7.5	0.710	0.719
SP CAUSE/LOSS	126,584	1.126	-3.5	1.087	1.100
*CRIME	359	0.835	0.0	0.835	0.835
*INL. MAR.	14,150	0.910	0.0	0.910	0.910
*FIDELITY	3,002	1.000	0.0	1.000	1.000
TOTAL	585,793	0.95	-4.4%	0.908	0.92
LIABILITY-					
OL&T	580,978	1.030	0.3%	1.033	1.022
M&C	29,338	0.690	3.1	0.711	0.704
TOTAL	610,316	1.00	1.1%	1.011	1.00
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	1,196,109		-1.6%		
MERCANTILE (34) *****	(1)	(2)	(3)	(4)	(5)
	AGGREGATE <u>LOSS COSTS</u>	CURRENT IMPLICIT <u>PMF</u>	NET <u>INDICATION</u>	INDIC. <u>PMF</u>	CAPPED <u>PMF</u>
COVERAGE					
PROPERTY-					
BASIC GRP I	1,360,692	1.017	-2.8%	0.989	0.989
BASIC GRP II	1,657,169	1.006	-9.6	0.909	0.910
SP CAUSE/LOSS	531,224	1.017	-7.8	0.938	0.938
*CRIME	9,408	0.835	0.0	0.835	0.835
*INL. MAR.	423,667	0.910	0.0	0.910	0.910
*FIDELITY	102,917	1.000	0.0	1.000	1.000
TOTAL	4,085,077	1.00	-5.9%	0.941	0.94
LIABILITY-					
OL&T	817,874	1.125	-7.6%	1.040	1.069
M&C	152,600	1.071	-1.9	1.051	1.081
LOCAL PRODUCT	65,188	0.659	0.1	0.660	0.679
*MULTI PRODUCT	170,028	0.832	2.5	0.853	0.853
TOTAL	1,205,690	1.00	-2.4%	0.976	1.00
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	5,290,767		-5.1%		

\* indicates coverage for which reviews are on a MULTISTATE basis.

NORTH DAKOTA  
TABLE 2  
COMMERCIAL PACKAGE POLICY  
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS (PMF)

INSTITUTION (35) *****	(1)	(2)	(3)	(4)	(5)
	AGGREGATE	CURRENT	NET	INDIC.	CAPPED
COVERAGE	<u>LOSS COSTS</u>	<u>IMPLICIT</u>	<u>INDICATION</u>	<u>PMF</u>	<u>PMF</u>
PROPERTY-					
BASIC GRP I	617,569	1.408	-0.1%	1.407	1.408
BASIC GRP II	778,440	0.754	-7.4	0.698	0.699
SP CAUSE/LOSS	234,178	0.815	-2.9	0.791	0.792
*CRIME	2,937	0.835	0.0	0.835	0.835
*INL. MAR.	2,567	0.910	0.0	0.910	0.910
*FIDELITY	26,800	1.000	0.0	1.000	1.000
TOTAL	1,662,491	0.95	-6.1%	0.892	0.89
LIABILITY-					
OL&T	293,787	0.953	-4.5%	0.910	1.000
M&C	20,865	0.900	1.6	0.914	1.004
TOTAL	314,652	0.95	-4.2%	0.910	1.00
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	1,977,143		-5.8%		

  

SERVICES (36) *****	(1)	(2)	(3)	(4)	(5)
	AGGREGATE	CURRENT	NET	INDIC.	CAPPED
COVERAGE	<u>LOSS COSTS</u>	<u>IMPLICIT</u>	<u>INDICATION</u>	<u>PMF</u>	<u>PMF</u>
PROPERTY-					
BASIC GRP I	737,700	0.945	1.7%	0.961	0.958
BASIC GRP II	1,185,885	1.107	0.7	1.115	1.112
SP CAUSE/LOSS	263,062	0.817	-7.8	0.753	0.751
*CRIME	10,903	0.835	0.0	0.835	0.835
*INL. MAR.	48,738	0.910	0.0	0.910	0.910
*FIDELITY	27,198	1.000	0.0	1.000	1.000
TOTAL	2,273,486	1.00	0.3%	1.003	1.00
LIABILITY-					
OL&T	174,651	1.072	4.3%	1.118	1.068
M&C	421,134	0.969	4.3	1.011	0.965
LOCAL PRODUCT	82,952	1.125	1.6	1.143	1.091
*MULTI PRODUCT	26,680	0.899	1.8	0.915	0.915
TOTAL	705,417	1.00	4.6%	1.046	1.00
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	2,978,903		1.3%		

\* indicates coverage for which reviews are on a MULTISTATE basis.

NORTH DAKOTA  
TABLE 2  
COMMERCIAL PACKAGE POLICY  
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS (PMF)

IND/PROC (37) *****	(1)	(2)	(3)	(4)	(5)
	AGGREGATE <u>LOSS COSTS</u>	CURRENT IMPLICIT <u>PMF</u>	NET <u>INDICATION</u>	INDIC. <u>PMF</u>	CAPPED <u>PMF</u>
COVERAGE					
PROPERTY-					
BASIC GRP I	574,363	1.257	0.6%	1.265	1.277
BASIC GRP II	417,659	0.804	-8.8	0.733	0.740
SP CAUSE/LOSS	145,807	0.850	-3.1	0.824	0.832
*CRIME	6,351	0.835	0.0	0.835	0.835
*INL. MAR.	2,603	0.910	0.0	0.910	0.910
*FIDELITY	54,501	1.000	0.0	1.000	1.000
TOTAL	1,201,284	1.00	-4.1%	0.959	0.97
LIABILITY-					
M&C	852,939	1.042	1.4	1.057	1.045
LOCAL PRODUCT	27,183	0.681	2.1	0.695	0.688
*MULTI PRODUCT	158,122	0.884	-2.3	0.864	0.864
TOTAL	1,038,244	1.00	0.9%	1.009	1.00
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	2,239,528		-1.8%		
CONTRACTORS (38) *****	(1)	(2)	(3)	(4)	(5)
	AGGREGATE <u>LOSS COSTS</u>	CURRENT IMPLICIT <u>PMF</u>	NET <u>INDICATION</u>	INDIC. <u>PMF</u>	CAPPED <u>PMF</u>
COVERAGE					
PROPERTY-					
BASIC GRP I	420,087	1.032	-3.9%	0.992	1.032
BASIC GRP II	502,225	1.045	-4.7	0.996	1.036
SP CAUSE/LOSS	113,904	0.775	-1.6	0.763	0.794
*CRIME	184	0.835	0.0	0.835	0.835
*INL. MAR.	1,022	0.910	0.0	0.910	0.910
*FIDELITY	14,559	1.000	0.0	1.000	1.000
TOTAL	1,051,981	1.00	-3.8%	0.962	1.00
LIABILITY-					
M&C	1,752,453	1.169	0.5	1.175	1.140
LOCAL PRODUCT	1,170,801	0.836	4.8	0.876	0.850
TOTAL	2,923,254	1.00	3.1%	1.031	1.00
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	3,975,235		1.2%		

\* indicates coverage for which reviews are on a MULTISTATE basis.

NORTH DAKOTA  
TABLE 2  
COMMERCIAL PACKAGE POLICY  
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS (PMF)

STATEWIDE *****	(1)	(2)	(3)	(4)	(5)
	AGGREGATE	CURRENT	NET	INDIC.	CAPPED
COVERAGE	<u>LOSS COSTS</u>	<u>IMPLICIT</u>	<u>INDICATION</u>	<u>PMF</u>	<u>PMF</u>
PROPERTY-		PMF			
BASIC GRP I	4,843,530	1.054	-1.1%	1.043	1.052
BASIC GRP II	5,947,014	0.961	-5.6	0.907	0.913
SP CAUSE/LOSS	1,779,778	0.943	-5.0	0.895	0.901
*CRIME	31,263	0.835	0.0	0.835	0.835
*INL. MAR.	493,503	0.910	0.0	0.910	0.910
*FIDELITY	236,157	1.000	0.0	1.000	1.000
TOTAL	13,331,245	0.990	-3.7%	0.953	0.960
LIABILITY-					
OL&T	2,328,973	1.047	-1.4%	1.033	1.033
M&C	3,229,329	1.091	1.2	1.103	1.078
LOCAL PRODUCT	1,346,124	0.835	4.3	0.871	0.847
*MULTI PRODUCT	354,830	0.859	0.3	0.862	0.862
TOTAL	7,259,256	0.999	1.7%	1.016	1.000
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	20,590,501		-1.8%		

\* indicates coverage for which reviews are on a MULTISTATE basis.



NORTH DAKOTA

TABLE 2

COMMERCIAL PACKAGE POLICY

COMBINED PMFs

<u>TYPE OF POLICY</u>	<u>CURRENT COMBINED</u>	<u>INDICATED COMBINED</u>	<u>CAPPED COMBINED</u>
MOTEL/HOTEL (31)	1.00	1.002	1.00
APARTMENT (32)	1.00	0.987	0.99
OFFICE (33)	0.98	0.959	0.96
MERCANTILE (34)	1.00	0.949	0.95
INSTITUTION (35)	0.95	0.895	0.91
SERVICES (36)	1.00	1.013	1.00
IND/PROC (37)	1.00	0.982	0.98
CONTRACTORS (38)	1.00	1.012	1.00

NOTE: Combined PMFs are provided for informational purposes only.

## EXPLANATORY NOTES TO TABLE 2

### CALCULATION OF REVISED PACKAGE MODIFICATION FACTORS

OBJECTIVE	<p>Commercial package policies were introduced in the 1960's as a convenient tool for both insurer and insured to have the many types of insurance needed by commercial risks packaged under one cover. Thus fire, extended coverage, crime, liability insurance, etc. could be written using a single policy instead of several. Today, virtually any type of monoline coverage can also be purchased as part of a package policy such as the CPP.</p> <p>The types of insured which can be written under a CPP are generally categorized into the following Types of Policy:</p> <ul style="list-style-type: none"><li>. Motels and Hotels (TOP 31)</li><li>. Apartments (TOP 32)</li><li>. Offices (TOP 33)</li><li>. Mercantile Operations (TOP 34)</li><li>. Institutions (TOP 35)</li><li>. Service Operations (TOP 36)</li><li>. Industrial and Processing Operations (TOP 37)</li><li>. Contractors (TOP 38)</li></ul>
PRICING OF POLICIES	<p>Since a CPP is essentially a combination of monoline coverages, CPP pricing employs monoline loss costs modified by PMFs (Package Modification Factors). These factors vary by the categories shown above and are reviewed annually.</p>
CPP PMF REVIEW PROCEDURE	<p>The CPP review of Package Modification Factors, which appears in Table 2 of this document, determines the appropriate PMF loss cost level for each of the eight CPP categories. This is done by combining the indications of the simultaneous reviews of monoline and multiline experience for the various lines (or coverages).</p> <p>A detailed explanation of the calculation of the revised PMFs follows.</p>

## EXPLANATORY NOTES TO TABLE 2 (Cont'd)

### LINES OF INSURANCE (COVERAGES) INCLUDED

The CPP review reflects the contribution from each significant coverage which can be written on a CPP. Included are:

#### Property Coverages

- . Basic Group I (BGI) - the predominant property coverage included.
- . Basic Group II (BGII) - both Basic Group I and Basic Group II must be purchased under a CPP contract.
- . Special Causes of Loss (SCL) - typically a type of insurance which is purchased in addition to Basic Group I and Basic Group II in order to provide "all risk" property coverage for the insured.
- . Crime (CRIME) - Crime insurance is a commonly purchased CPP coverage.
- . Inland Marine (INL. MAR.) - A highly specialized line of property insurance, Inland Marine coverages can be purchased as part of a package policy.
- . Fidelity (FIDELITY) - Certain forms of fidelity insurance can be part of the CPP package. Various forms of employee dishonesty coverage are available.

#### Liability Coverages

- . Owners, Landlords and Tenants (OL&T) Liability - this is the prevalent type of Premises/Operations liability for CPP insureds.
- . Manufacturers and Contractors Liability (M&C) - this is the type of Premises/Operations liability insurance for risks whose liability exposure is more heavily off-premises than on.
- . Products/Completed Operations Liability (PROD) - this type of insurance protects against claims for damages arising from products/completed operations in conjunction with an insured's business. For review purposes, this line of insurance is split into the following two categories:
  - Products: experience for this category is reviewed on a multistate basis.
  - Local Products/ Completed Operations: experience for this category reflects an exposure to loss which is local in nature; therefore, individual state experience is used.

## EXPLANATORY NOTES TO TABLE 2 (Cont'd)

### THE IMPLICIT PACKAGE MODIFICATION FACTOR

For each applicable coverage listed under each of the eight (8) CPP categories, a "current implicit PMF" is shown in column (2). The definition of this factor follows:

For a given CPP category (e.g., apartments) the published Package Modification Factor (PMF) represents the loss cost for a CPP relative to that for monoline policies providing the same coverages. Thus a property (liability) PMF of .80 represents a 20% lower aggregate loss cost for a CPP than for the comparable monoline policies. This PMF, however, represents the CPP "loss cost" for all property (liability) coverages combined. Based on CPP experience, it has been determined that this CPP "loss cost" can differ significantly if it is determined for each property (liability) coverage individually. The IPMF represents what the PMF would be for that CPP risk if only a single coverage were written. The use of the IPMF in monoline/multiline ratemaking and in the determination of revised CPP Package Modification Factors is significant in that it appropriately identifies how different the component parts of the multiline "loss cost" are.

### THE MULTILINE INDICATION

Under the CPP ratemaking procedures, monoline and multiline experience are combined for each coverage. The results of these coverage analyses are indicated changes to monoline loss costs and also indicated CPP aggregate loss cost level changes. The CPP indications by coverage are then incorporated in the CPP PMF review. These indications (shown in column (3)) represent the needed adjustments to the IPMFs (shown in column (2)) described above.

The development of these indications is detailed in Section B.

### THE INDICATED PMF

For each CPP category (and for property vs. liability), the indicated PMF is calculated as follows:

Each of the current IPMFs in column (2) is multiplied by the indicated percent change shown in column (3). A weighted average of the indicated IPMFs, using weights based on latest year aggregate loss costs at current ISO loss cost level (column (1) divided by column (2)), yields the indicated PMF at the bottom of column (4).

### THE CAPPED PMF

The indicated PMF for each category (and for property vs. liability) shown at the bottom of column (4) is limited to a maximum of 1.00 in arriving at the proposed PMF (bottom of column (5)). All indicated PMFs which are below 1.00 are rounded to the nearest .01 in determining the proposed PMF. To the extent that any indicated PMFs are capped at 1.00, indicated PMFs below this value are adjusted in order to minimize any revenue changes which would result from capping.

In addition to the adjustments just described, the IPMFs (for property and liability) shown in column (4) are subject to minimum and maximum values and adjusted in column (5) so that they average to the proposed PMF shown at the bottom of column (5).

## COMMERCIAL PACKAGE POLICY

### TABLE OF CONTENTS

#### SECTION B - CALCULATION OF PROPOSED CHANGES

##### PROPERTY COVERAGES

###### Commercial Fire & Allied Lines

Distribution of Advisory Loss Cost Level Change (Tables 3-7) .....	B-2-20
--	--------

Crime and Fidelity .....	B-21
--------------------------	------

###### Commercial Inland Marine

Revision of Implicit Package Modification Factor (Tables 8-9) .....	B-22-26
---	---------

##### LIABILITY COVERAGES

Distribution of Advisory Loss Cost Level Change (Tables 10-18).....	B-27-44
---	---------

NORTH DAKOTA

TABLE 3 - BASIC GROUP I RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)	(5)
	\$ LST SQ FORMULA RELATIVITY	CREDIBILITY Z	Z-WTD. RELATIVITY	BALANCED RELATIVITY	INDICATED CHANGE *
TOP					
10	1.092	0.040	1.004	1.009	
31	0.599	0.019	0.990	0.996	-1.3%
32	0.711	0.027	0.991	0.996	-1.3%
33	1.835	0.008	1.005	1.010	+0.1%
34	0.681	0.063	0.976	0.981	-2.8%
35	1.115	0.029	1.003	1.008	-0.1%
36	1.801	0.035	1.021	1.026	+1.7%
37	1.373	0.031	1.010	1.015	+0.6%
38	0.186	0.021	0.965	0.970	-3.9%
RATING GROUP					
01	0.889	0.057	0.993	0.992	
02	1.202	0.018	1.003	1.002	
03	0.800	0.031	0.993	0.992	
04	1.069	0.166	1.011	1.010	
06	0.483	0.050	0.964	0.963	
07	0.513	0.009	0.994	0.993	
08	0.384	0.051	0.952	0.951	
09	0.333	0.013	0.986	0.985	
10	0.934	0.052	0.996	0.996	
13	1.889	0.076	1.050	1.049	
14	0.548	0.031	0.982	0.981	
15	0.705	0.032	0.989	0.988	
17	0.499	0.007	0.995	0.994	
18	0.331	0.009	0.990	0.989	
21	2.062	0.038	1.028	1.027	
22	0.284	0.016	0.980	0.979	

\* INDICATED CHANGE =  
 (BALANCED RELATIVITY FOR TOP) / (BALANCED MONOLINE (TOP 10) RELATIVITY) -1

NORTH DAKOTA

TABLE 4 - SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)	(5)
	\$ LST SQ FORMULA RELATIVITY	CREDIBILITY Z	Z-WTD. RELATIVITY	BALANCED RELATIVITY	INDICATED CHANGE *
TOP					
10	2.272	0.036	1.030	1.045	
31	1.232	0.010	1.002	1.017	-2.7%
32	1.066	0.034	1.002	1.017	-2.7%
33	0.623	0.014	0.993	1.008	-3.5%
34	0.431	0.061	0.950	0.964	-7.8%
35	1.008	0.028	1.000	1.015	-2.9%
36	0.202	0.032	0.950	0.964	-7.8%
37	0.927	0.019	0.999	1.013	-3.1%
38	2.423	0.015	1.013	1.028	-1.6%
CATEGORY					
01	0.719	0.342	0.893	0.971	
02	0.623	0.022	0.990	1.076	
03	1.016	0.014	1.000	1.087	
04	1.370	0.021	1.007	1.094	
05	3.448	0.012	1.015	1.104	
06	2.474	0.009	1.008	1.096	
07	0.874	0.005	0.999	1.087	
08	0.913	0.006	0.999	1.087	
09	0.267	0.017	0.978	1.063	
10	1.728	0.002	1.001	1.088	
11	0.657	0.017	0.993	1.079	
12	7.509	0.020	1.041	1.132	
13	0.760	0.009	0.998	1.085	
14	1.370	0.016	1.005	1.093	

\* INDICATED CHANGE =  
 (BALANCED RELATIVITY FOR TOP) / (BALANCED MONOLINE (TOP 10) RELATIVITY) -1

## EXPLANATORY NOTES TO TABLES 3 AND 4

### BASIC GROUP I AND SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

#### OBJECTIVE

The explanations which follow clarify Tables 3 and 4, the Basic Group I Relativity Analysis and the Special Causes of Loss Relativity Analysis, respectively. The purpose of these analyses is to:

- (1) determine monoline classification loss cost level needs for Basic Group I;
- (2) determine monoline category loss cost level needs for Special Causes of Loss;
- (3) determine indicated changes to the eight property CPP Package Modification Factors (PMFs) based on Basic Group I/Special Causes of Loss experience.

#### COLUMN (1)

#### LEAST SQUARES FORMULA RELATIVITIES

The Least Squares Formula Relativities are the marginal relativities which result from the application of the simultaneous review procedure to the raw experience (where marginal refers to the relativities for a given rating variable, e.g. type of policy, across all subsets of any other rating variables, i.e. rating group for Basic Group I and category for Special Causes of Loss).

The purpose of such a simultaneous review procedure is to arrive at a set of type of policy relativities (which will serve to price CPP policies relative to monoline policies via the PMF); a set of rating group relativities for Basic Group I; and a set of category relativities for Special Causes of Loss that best represent the experience. This procedure is in contrast to a review of each rating variable's experience separately. Such one-way types of review do not take into account differing percentages of monoline and multiline experience in each rating variable, or differing percentages of a particular rating variable's experience in the monoline and multiline types of policy. The simultaneous relativity procedure accounts for these different distributions in generating relativities for the various rating variables.



### EXPLANATORY NOTES TO TABLES 3 AND 4 (Cont'd)

COLUMN (1)  
(Cont'd)

The procedure uses an iterative technique to determine a set of marginal relativities by rating variable that is a best fit to the individual cell relativities, with each cell being defined as the cross-section of specific values of each rating variable. The process uses the relativity of the five year experience ratios by rating cell to the overall statewide experience ratio and the latest year aggregate loss costs for each rating cell. (This experience is shown in Table 5 for Basic Group I and Table 6 for Special Causes of Loss). Specifically, the iteration procedure uses the following formulas:

BASIC GROUP I:

$$TOP_i = \frac{\sum_{j=1}^n W_{ij}^2 R_{ij} RG_j}{\sum_{j=1}^n W_{ij}^2 RG_j^2}, \text{ where } 1 \leq i \leq m;$$

$$RG_j = \frac{\sum_{i=1}^m W_{ij}^2 R_{ij} TOP_i}{\sum_{i=1}^m W_{ij}^2 TOP_i^2}, \text{ where } 1 \leq j \leq n;$$

SPECIAL CAUSES OF LOSS:

$$TOP_i = \frac{\sum_{j=1}^n W_{ij}^2 R_{ij} CAT_j}{\sum_{j=1}^n W_{ij}^2 CAT_j^2}, \text{ where } 1 \leq i \leq m;$$

$$CAT_j = \frac{\sum_{i=1}^m W_{ij}^2 R_{ij} TOP_i}{\sum_{i=1}^m W_{ij}^2 TOP_i^2}, \text{ where } 1 \leq j \leq n;$$

EXPLANATORY NOTES TO TABLES 3 AND 4 (Cont'd)

COLUMN (1)  
(Cont'd)

- .  $TOP_i$  is the relativity for the  $i$ th Type of Policy;
- .  $RG_j$  is the relativity for the  $j$ th Rating Group;
- .  $CAT_j$  is the relativity for the  $j$ th Category;
- .  $W_{ij}$  is the aggregate loss costs for the  $i$ th Type of Policy,  $j$ th Rating Group or Category;
- .  $R_{ij}$  is the experience ratio relativity for the  $i$ th Type of Policy,  $j$ th Rating Group or Category;
- .  $m$  is the number of Types of Policy in the analysis;
- .  $n$  is the number of Rating Groups or Categories in the analysis.

The procedure determines  $m$  Type of Policy relativities using the above formulas. Then, using those results, a set of  $n$  Rating Group or Category relativities are determined. These steps form an iterative process which continues until there is no appreciable difference in results from one iteration to the next.

COLUMN (2)

CREDIBILITY

The credibility of the experience for each rating variable is determined from the formula:

$$Z = \frac{P}{P + K}$$

where  $P$  is the 5-year adjusted aggregate loss costs for a given rating variable, and  $K$  is a constant value. For Basic Group I,  $K$  equals an aggregate loss cost volume of \$40,000,000 for rating group and \$100,000,000 for type of policy. For Special Causes of Loss,  $K$  equals an aggregate loss cost volume of \$15,000,000.

EXPLANATORY NOTES TO TABLES 3 AND 4 (Cont'd)

COLUMN (3)

CREDIBILITY-WEIGHTED RELATIVITIES

Credibility-weighted relativities are calculated based on the formula

$$W = R^Z$$

where Z is the credibility, R is the least squares formula relativity and W is the credibility-weighted relativity for a given rating variable.

This formula implicitly assigns the complement of credibility to a relativity of unity.

COLUMN (4)

BALANCED RELATIVITIES

The credibility-weighted relativities are balanced to assure that the average relativity across all rating variables remains at unity.

MULTILINE  
CONSIDERATIONS

The type of policy (TOP) relativities are used to generate multiline indications which apply to the current Implicit Package Modification Factors (IPMFs). The indicated IPMFs are calculated as follows:

$$\text{TOP y indicated IPMF} = \frac{(\text{TOP y current IPMF}) \times (\text{TOP y relativity})}{\text{monoline relativity}}$$

EXPLANATORY NOTES TO TABLES 3 AND 4 (Cont'd)

MULTILINE  
CONSIDERATIONS  
(Cont'd)

For each CPP Type of Policy the indicated IPMF is subject to a minimum value of 0.50 and a maximum value of 1.50. If an indicated IPMF falls outside one of those limits, it is capped at that amount, the aggregate loss costs for that Type of Policy are adjusted to the capped IPMF level, and the entire relativity review as described above is re-performed to take this into account. If an IPMF has been capped it is so noted at the bottom of Table 3 and Table 4.

Loss cost changes for each TOP are calculated as described on Tables 3 and 4.

Entire State (North Dakota)  
\*\*\*\*\*

NORTH DAKOTA  
BASIC GROUP I RELATIVITY ANALYSIS  
TABLE 5 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 12/31/17 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
<hr/>						
10 MONOLINE	01 APARTMENTS	44,528	262,470	0.424	0.924	1.041
	02 OTHER HABITATIONAL	20,859	127,004	1.426	1.124	1.266
	03 RESTAURANTS & BARS	10,184	83,888	0.000	0.849	0.956
	04 OTHER MERCANTILE RS	327,538	1,612,004	2.126	1.344	1.514
	06 CHURCHES	1,073	6,274	0.000	0.854	0.962
	07 SCHOOLS	5,103	22,221	0.000	0.853	0.961
	08 OFFICES AND BANKS	77,589	340,315	0.000	0.833	0.938
	09 REC. FACILITIES	17,240	112,324	0.074	0.861	0.970
	10 HOTELS AND MOTELS	15,661	228,393	0.397	0.920	1.036
	13 MOTOR VEHICLE RISKS	108,765	523,989	1.020	1.044	1.176
	14 OTHER NON-MANUF.	45,955	249,334	0.000	0.839	0.945
	15 STORAGE	29,971	194,967	0.025	0.847	0.954
	17 FOOD MANUFACTURING	710	9,436	0.000	0.853	0.961
	18 WOOD MANUFACTURING	3,647	5,863	0.000	0.854	0.962
	21 METAL MANUFACTURING	70,962	290,333	0.000	0.836	0.941
	22 OTHER MANUFACTURING	12,667	77,835	0.000	0.849	0.956
	TOTAL*	792,452	4,146,650	1.090	1.090	1.228
31 MULTILINE MOTEL/HOTEL	10 HOTELS AND MOTELS	409,295	1,983,199	0.130	0.516	0.581
	TOTAL*	409,295	1,983,199	0.130	0.516	0.581
32 MULTILINE APARTMENT	01 APARTMENTS	424,945	2,156,718	0.429	0.583	0.657
	02 OTHER HABITATIONAL	121,016	615,831	1.483	0.793	0.893
	TOTAL*	545,961	2,772,549	0.663	0.629	0.709
33 MULTILINE OFFICE	08 OFFICES AND BANKS	177,863	806,472	0.736	0.650	0.732
	TOTAL*	177,863	806,472	0.736	0.650	0.732
34 MULTILINE MERCANTILE	03 RESTAURANTS & BARS	209,363	1,101,933	0.063	0.513	0.578
	04 OTHER MERCANTILE RS	676,172	3,313,513	0.853	0.686	0.773
	08 OFFICES AND BANKS	32,591	183,236	0.260	0.562	0.633
	13 MOTOR VEHICLE RISKS	262,773	1,141,829	2.962	1.109	1.249
	14 OTHER NON-MANUF.	28,609	162,077	0.000	0.515	0.580
	15 STORAGE	151,184	839,787	0.516	0.606	0.682
	TOTAL*	1,360,692	6,742,375	1.069	0.726	0.817

Entire State (North Dakota)  
\*\*\*\*\*

NORTH DAKOTA  
BASIC GROUP I RELATIVITY ANALYSIS  
TABLE 5 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 12/31/17 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
35 MULTILINE INSTITUTIONAL	02 OTHER HABITATIONAL	1,725	9,007	0.000	0.518	0.583
	06 CHURCHES	409,298	2,084,027	0.052	0.497	0.560
	07 SCHOOLS	85,569	357,305	0.076	0.526	0.592
	08 OFFICES AND BANKS	29,672	124,593	0.000	0.516	0.581
	09 REC. FACILITIES	23,780	124,374	0.000	0.516	0.581
	13 MOTOR VEHICLE RISKS	377	2,620	0.000	0.518	0.583
	14 OTHER NON-MANUF.	67,148	302,873	0.131	0.537	0.605
	TOTAL*	617,569	3,004,799	0.059	0.507	0.571
36 MULTILINE SERVICES	03 RESTAURANTS & BARS	17,500	73,034	0.000	0.771	0.868
	04 OTHER MERCANTILE RS	105,641	578,988	0.525	0.693	0.780
	08 OFFICES AND BANKS	87,666	444,224	0.030	0.389	0.438
	09 REC. FACILITIES	52,831	284,189	0.036	0.497	0.560
	13 MOTOR VEHICLE RISKS	317,133	1,623,248	3.505	3.220	3.626
	14 OTHER NON-MANUF.	85,507	355,484	0.681	0.852	0.959
	15 STORAGE	55,675	243,344	0.329	0.695	0.783
	21 METAL MANUFACTURING	8,590	33,643	0.000	0.872	0.982
37 MULTILINE INDUST/PROCESS	22 OTHER MANUFACTURING	7,157	31,456	0.000	0.879	0.990
	TOTAL*	737,700	3,667,610	1.692	1.753	1.975
	04 OTHER MERCANTILE RS	101,515	596,252	0.100	0.377	0.425
	08 OFFICES AND BANKS	13,461	57,268	0.000	0.809	0.911
	13 MOTOR VEHICLE RISKS	386	3,385	0.000	0.970	1.092
	14 OTHER NON-MANUF.	8,572	50,382	0.000	0.826	0.930
	15 STORAGE	15,874	38,720	0.000	0.858	0.966
	17 FOOD MANUFACTURING	20,606	253,571	0.229	0.632	0.712
38 MULTILINE CONTRACTORS	18 WOOD MANUFACTURING	91,623	362,471	0.002	0.418	0.471
	21 METAL MANUFACTURING	227,743	1,243,180	2.992	2.713	3.055
	22 OTHER MANUFACTURING	94,583	545,262	0.037	0.349	0.393
	TOTAL*	574,363	3,150,491	1.219	1.345	1.514
	04 OTHER MERCANTILE RS	352,816	1,834,384	0.061	0.179	0.202
	08 OFFICES AND BANKS	28,904	188,272	0.030	0.591	0.666
	14 OTHER NON-MANUF.	38,367	161,063	0.000	0.612	0.689
	TOTAL*	420,087	2,183,719	0.053	0.247	0.278

Entire State (North Dakota)  
 \*\*\*\*\*

NORTH DAKOTA  
 BASIC GROUP I RELATIVITY ANALYSIS  
 TABLE 5 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 12/31/17 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
TOTAL ALL TOPS*	01 APARTMENTS	469,473	2,419,188	0.429	0.615	0.693
	02 OTHER HABITATIONAL	143,600	751,842	1.457	0.838	0.943
	03 RESTAURANTS & BARS	237,047	1,258,855	0.056	0.546	0.615
	04 OTHER MERCANTILE RS	1,563,682	7,935,141	0.870	0.690	0.777
	06 CHURCHES	410,371	2,090,301	0.052	0.498	0.561
	07 SCHOOLS	90,672	379,526	0.072	0.544	0.613
	08 OFFICES AND BANKS	447,746	2,144,380	0.319	0.616	0.694
	09 REC. FACILITIES	93,851	520,887	0.034	0.568	0.640
	10 HOTELS AND MOTELS	424,956	2,211,592	0.140	0.531	0.598
	13 MOTOR VEHICLE RISKS	689,434	3,295,071	2.902	2.069	2.330
	14 OTHER NON-MANUF.	274,158	1,281,213	0.244	0.703	0.792
	15 STORAGE	252,704	1,316,818	0.384	0.670	0.755
	17 FOOD MANUFACTURING	21,316	263,007	0.221	0.639	0.720
	18 WOOD MANUFACTURING	95,270	368,334	0.002	0.434	0.490
	21 METAL MANUFACTURING	307,295	1,567,156	2.217	2.228	2.509
	22 OTHER MANUFACTURING	114,407	654,553	0.031	0.438	0.493
	TOTAL*	5,635,982	28,457,864	0.864	0.888	1.000

\* TOTALS IN COLUMNS (3), (4) & (5) ARE AVERAGES USING COLUMN (1) AS WEIGHTS.

## NORTH DAKOTA

SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS  
TABLE 6 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 12/31/17 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) RELATIVITY
<hr/>					
10 MONOLINE	01 BUILDINGS	208,010	1,020,243	1.336	1.715
	02 RES. APTS. AND COND	6,641	29,622	0.000	0.000
	03 OFFICES	12,639	70,588	2.197	2.820
	04 MERCANTILE - HIGH	11,980	74,293	1.745	2.240
	05 MERCANTILE - MEDIUM	2,706	26,680	0.037	0.047
	06 MERCANTILE - LOW	3,359	28,867	2.952	3.789
	07 MOTELS AND HOTELS	1,755	12,923	0.000	0.000
	08 INSTITUTIONAL - HIG	1,844	10,278	0.258	0.331
	09 INSTITUTIONAL - LOW	1,318	4,290	0.409	0.525
	10 INDUST-PROC - HIGH	1,400	2,793	2.050	2.632
	11 INDUST-PROC - LOW	13,512	83,927	0.054	0.069
	12 SERVICE - HIGH	9,942	45,078	15.747	20.214
	13 SERVICE - LOW	8,398	49,988	0.704	0.904
	14 CONTRACTORS	6,201	25,112	0.940	1.207
	TOTAL*	289,705	1,484,682	1.759	2.258
31 MULTILINE	01 BUILDINGS	73,805	359,164	0.732	0.940
MOTEL/HOTEL	07 MOTELS AND HOTELS	13,577	60,619	0.943	1.211
	TOTAL*	87,382	419,783	0.765	0.982
32 MULTILINE	01 BUILDINGS	220,520	1,117,502	0.633	0.813
APARTMENT	02 RES. APTS. AND COND	57,117	308,971	0.584	0.750
	TOTAL*	277,637	1,426,473	0.623	0.800
33 MULTILINE	01 BUILDINGS	94,985	431,155	0.397	0.510
OFFICE	03 OFFICES	31,599	129,291	0.362	0.465
	04 MERCANTILE - HIGH	0	336	0.000	0.000
	08 INSTITUTIONAL - HIG	0	315	0.000	0.000
	11 INDUST-PROC - LOW	0	244	0.000	0.000
	TOTAL*	126,584	561,341	0.388	0.498



NORTH DAKOTA

SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS  
TABLE 6 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 12/31/17 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) RELATIVITY
34 MULTILINE MERCANTILE	01 BUILDINGS	432,107	2,088,536	0.242	0.311
	03 OFFICES	216	1,753	0.000	0.000
	04 MERCANTILE - HIGH	42,778	238,923	0.835	1.072
	05 MERCANTILE - MEDIUM	32,858	155,127	1.462	1.877
	06 MERCANTILE - LOW	21,655	103,582	1.102	1.415
	08 INSTITUTIONAL - HIG	88	94	0.000	0.000
	11 INDUST-PROC - LOW	0	41	0.000	0.000
	12 SERVICE - HIGH	631	7,023	0.000	0.000
	13 SERVICE - LOW	118	785	5.225	6.707
	14 CONTRACTORS	773	6,538	0.000	0.000
	TOTAL*	531,224	2,602,402	0.401	0.515
35 MULTILINE INSTITUTIONAL	01 BUILDINGS	157,921	825,651	0.600	0.770
	03 OFFICES	8	15	0.000	0.000
	08 INSTITUTIONAL - HIG	17,542	82,671	0.799	1.026
	09 INSTITUTIONAL - LOW	58,584	247,397	0.223	0.286
	12 SERVICE - HIGH	81	241	0.000	0.000
	13 SERVICE - LOW	28	260	0.000	0.000
	14 CONTRACTORS	14	91	0.000	0.000
	TOTAL*	234,178	1,156,326	0.520	0.668
36 MULTILINE SERVICES	01 BUILDINGS	195,849	960,105	0.589	0.756
	03 OFFICES	862	4,019	0.000	0.000
	04 MERCANTILE - HIGH	933	2,698	0.000	0.000
	05 MERCANTILE - MEDIUM	32	462	0.000	0.000
	06 MERCANTILE - LOW	114	456	0.000	0.000
	08 INSTITUTIONAL - HIG	1,060	4,184	0.000	0.000
	09 INSTITUTIONAL - LOW	698	2,257	0.000	0.000
	10 INDUST-PROC - HIGH	36	98	0.000	0.000
	11 INDUST-PROC - LOW	365	1,724	0.000	0.000
	12 SERVICE - HIGH	45,746	248,003	0.404	0.519
	13 SERVICE - LOW	16,682	88,400	2.201	2.825
	14 CONTRACTORS	685	3,615	6.325	8.119
	TOTAL*	263,062	1,316,021	0.665	0.854

NORTH DAKOTA

SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS  
TABLE 6 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 12/31/17 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) RELATIVITY
37 MULTILINE INDUST/PROC	01 BUILDINGS	107,266	571,298	0.509	0.653
	03 OFFICES	19	430	0.000	0.000
	04 MERCANTILE - HIGH	203	475	0.000	0.000
	10 INDUST-PROC - HIGH	5,871	32,681	1.495	1.919
	11 INDUST-PROC - LOW	32,275	167,639	1.013	1.300
	12 SERVICE - HIGH	0	125	0.000	0.000
	13 SERVICE - LOW	41	68	0.000	0.000
	14 CONTRACTORS	132	489	0.000	0.000
	TOTAL*	145,807	773,205	0.659	0.846
38 MULTILINE CONTRACTORS	01 BUILDINGS	77,952	411,744	1.426	1.831
	03 OFFICES	561	5,038	0.000	0.000
	04 MERCANTILE - HIGH	317	886	0.000	0.000
	06 MERCANTILE - LOW	166	421	0.000	0.000
	12 SERVICE - HIGH	147	678	0.000	0.000
	13 SERVICE - LOW	68	344	0.000	0.000
	14 CONTRACTORS	34,693	209,091	2.801	3.596
	TOTAL*	113,904	628,202	1.829	2.348
TOTAL ALL TOPS*	01 BUILDINGS	1,568,415	7,785,398	0.631	0.810
	02 RES. APTS. AND COND	63,758	338,593	0.523	0.671
	03 OFFICES	45,904	211,134	0.854	1.096
	04 MERCANTILE - HIGH	56,211	317,611	1.007	1.293
	05 MERCANTILE - MEDIUM	35,596	182,269	1.352	1.736
	06 MERCANTILE - LOW	25,294	133,326	1.335	1.714
	07 MOTELS AND HOTELS	15,332	73,542	0.835	1.072
	08 INSTITUTIONAL - HIG	20,534	97,542	0.706	0.906
	09 INSTITUTIONAL - LOW	60,600	253,944	0.224	0.288
	10 INDUST-PROC - HIGH	7,307	35,572	1.594	2.046
	11 INDUST-PROC - LOW	46,152	253,575	0.724	0.929
	12 SERVICE - HIGH	56,547	301,148	3.095	3.973
	13 SERVICE - LOW	25,335	139,845	1.707	2.191
	14 CONTRACTORS	42,498	244,936	2.526	3.243
	TOTAL*	2,069,483	10,368,435	0.779	1.000

\* TOTALS IN COLUMNS (3) & (4) ARE AVERAGES USING COLUMN (1) AS WEIGHTS.

## EXPLANATORY NOTES TO TABLES 5 AND 6

### BASIC GROUP I/SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

**INTRODUCTION**      The experience used in the relativity analysis and displayed in Tables 5 and 6 is the latest five years of accident year data as reported under the Commercial Statistical Plan. As in the overall review, loss costs have been adjusted to current ISO loss cost and prospective amount of insurance levels (with multiline aggregate loss costs adjusted additionally by the current implicit package modification factors). Incurred losses are adjusted to prospective cost levels, and are further adjusted by the Basic Group I large loss procedure and the Special Causes of Loss excess procedure. Losses have also been developed to their ultimate settlement value by application of loss development factors.

**COLUMN (1)**      AGGREGATE LOSS COSTS

The latest year adjusted aggregate loss costs (adjusted as described above) are used as weights both in the calculation of any totals shown in this table and in the iterative formulae used in the simultaneous review procedure.

**COLUMN (2)**      5 - YEAR AGGREGATE LOSS COSTS

The combined five-year adjusted aggregate loss costs (adjusted as described above) are used to calculate the experience ratios in column (3).

**COLUMN (3)**      FIVE-YEAR EXPERIENCE RATIOS

These are the ratio of the combined five-year adjusted incurred losses (adjusted as described above) to the combined five-year adjusted aggregate loss costs as shown in Column (2). Any totals which are shown are weighted averages using the adjusted aggregate loss costs in Column (1).

**COLUMN (4)**      CREDIBILITY (Z) WEIGHTED EXPERIENCE RATIO

A credibility procedure is applied to the initial experience ratios in column (3) on a cell-by-cell basis prior to the simultaneous review procedure. The credibility values are calculated using an empirical Bayesian credibility procedure. In the following discussion, cell refers to an individual combination of TOP, rating group or category, and territory (where applicable).

EXPLANATORY NOTES TO TABLES 5 AND 6 (Cont'd)

COLUMN (4)  
(Cont'd)

The important concept underlying empirical Bayesian credibility is that the credibility should depend both on the overall variation of the group of which the cell is a member, in addition to the variation of the yearly experience ratios for each cell. Therefore, if a cell's data is itself very stable then we would assign a relatively high credibility value, and vice versa.

The empirical Bayesian credibility formula for individual cell credibility is  $Z = ((C-3)/C) (P/(P+K)) + (3/C)$ . P equals the cell's five-year adjusted aggregate loss costs and C equals the number of unique combinations of rating variables (Territory, TOP and Rating Group/Category) within a class group. The K value is estimated from the underlying data using the empirical Bayes method and varies by TOP group and by territory where applicable. The three TOP groups used in this analysis are: Monoline (TOP 10), Premises (TOP's 31-35), and Operations (TOP's 36-38). The 3/C term corrects for the statistical bias associated with the credibility process. The minimum credibility that is possible is 3/C.

The calculated credibility (Z) is then applied to the five-year experience ratio with the complement of credibility applied to the credibility-weighted average of the individual experience ratios of the group, where group refers to the specified TOP/territory group. In a non-territory state, K values would be determined for the three TOP groups on an entire state basis.

COLUMN (5)

WEIGHTED RELATIVITIES

The relativities are the ratios of the five-year credibility-weighted experience ratios shown in column (4) to the average five-year credibility-weighted experience ratio for all TOP's, rating groups and territories (where applicable) combined. These relativities represent how much better or worse than average the experience for a given cell is. They are used along with the aggregate loss costs in column (1) as input for the simultaneous review procedure.

NORTH DAKOTA

TABLE 7 - BASIC GROUP II RELATIVITY ANALYSIS

	(1) ACCIDENT YEAR ENDING 12/31/17 AGGR. LOSS COSTS AT CURRENT IMPLICIT PMF	(2) ACCIDENT YEARS 2008-2017 EXPER. RATIO AT CURRENT PMF	(3) FORMULA RELATIVITY (2) / 0.856	(4) CREDI- BILITY Z C	(5) Z WEIGHTED RELA- TIVITY D	(6) BALANCED FORMULA RELA- TIVITY E	(7) NORMALIZED FORMULA RELA- TIVITY F	(8) INDICATED CHANGE G
MONOLINE	959,984	1.071	1.251	0.148	1.037	1.037	1.0515	
MULTILINE	5,947,014	0.821	0.959	0.540	0.978	0.978	0.9920	
COVERAGE	6,906,998	0.856	1.000			0.9862 B	1.0003	
MULTILINE TOP								
31 MOTEL/HOTEL	242,956	0.387	0.452	0.036	0.980	0.961	0.9744	-7.3%
32 APARTMENT	898,845	0.995	1.162	0.141	1.023	1.004	1.0180	-3.2%
33 OFFICE	263,835	0.509	0.595	0.054	0.978	0.959	0.9724	-7.5%
34 MERCANTILE	1,657,169	0.698	0.815	0.241	0.955	0.937	0.9501	-9.6%
35 INSTITUTIONAL	778,440	0.732	0.855	0.145	0.979	0.960	0.9734	-7.4%
36 SERVICES	1,185,885	1.151	1.345	0.185	1.064	1.044	1.0586	+0.7%
37 INDUST/PROCESS	417,659	0.489	0.571	0.083	0.964	0.946	0.9592	-8.8%
38 CONTRACTORS	502,225	0.922	1.077	0.097	1.007	0.988	1.0018	-4.7%
	5,947,014	0.821 B	0.959		0.997 B	0.978 B	0.9920 B	

B - AVERAGE WEIGHTED BY COLUMN (1)

C - CREDIBILITY =  $P / (P + K)$  WHERE P REPRESENTS THE TOTAL 10 YEAR ADJUSTED LOSS COSTS AND K = 45,000,000

D - (5) = (3) \* (4) + (1.000 - (4))

E - (6) = (5) \* (0.978/0.997)

F - (7) = (6) / 0.9862

G - INDICATED CHANGE = (NORMALIZED FORMULA RELATIVITY FOR TOP) / (NORMALIZED FORMULA MONOLINE (TOP 10) RELATIVITY) - 1

## EXPLANATORY NOTES TO TABLE 7

### BASIC GROUP II RELATIVITY ANALYSIS

#### OBJECTIVE

The explanations which follow clarify Table 7, the Basic Group II (BG II) relativity analysis. The purpose of this analysis is to:

- (1) determine the monoline loss cost level need;
- (2) determine indicated changes to the eight property Commercial Package Policy (CPP) Package Modification Factors (PMFs) based on Basic Group II experience.

#### COLUMN (1)

##### AGGREGATE LOSS COSTS

The latest accident year adjusted aggregate loss costs (adjusted in the same manner as in the overall review, i.e. to current manual loss cost and prospective amount of insurance levels, with multiline aggregate loss costs further adjusted to current IPMF level) are used as weights in the calculation of any totals shown in this table.

#### COLUMN (2)

##### 10 - YEAR EXPERIENCE RATIO

These experience ratios are the ratio of the combined ten year CSP adjusted incurred losses (adjusted to current deductible and prospective cost levels including loss development, and also adjusted to reflect the BGII excess loss procedure) to the combined ten year CSP adjusted aggregate loss costs. Any totals which are shown are weighted averages using the aggregate loss costs in Column (1). When a dash is displayed in the column, it indicates that the indicated IPMF which resulted from this procedure was capped. The procedure which follows when capping occurs is described below.

#### COLUMN (3)

##### FORMULA RELATIVITY

The formula relativities are the ratios of the ten year experience ratios for the type of policy (either monoline vs. multiline or individual multiline programs) to the average ten year experience ratio for monoline and multiline combined. These relativities represent how much better or worse than average the experience for a given type of policy is. Again, any totals which are shown are weighted averages and the display of a dash indicates that the resulting IPMF was capped.

EXPLANATORY NOTES TO TABLE 7 (Cont'd)

COLUMN (3)  
(Cont'd)

Unlike the BGI and SCL relativity analyses, the BGII analysis does not employ a simultaneous review procedure since a one way review is involved. That is, the overall loss cost change is only distributed across type of policy; no other rating variables are considered.

COLUMN (4)

CREDIBILITY

The credibility of the experience for each type of policy is determined from the formula:

$$Z = \frac{P}{P + K}$$

where P is the ten year adjusted aggregate loss costs for a given type of policy, and K is a constant loss cost volume of \$45,000,000.

COLUMN (5)

Z - WEIGHTED RELATIVITY

The weighted relativity is a weighted average of the individual TOP formula relativity and the overall (coverage) formula relativity using credibility and its complement as the respective weights. Therefore, to the extent that the indication for a type of policy is not fully credible, the complement of credibility is assigned to the statewide coverage level change.

COLUMN (6)

BALANCED FORMULA RELATIVITY

The individual multiline weighted relativities are balanced to the multiline weighted relativity level by applying a factor equal to the overall multiline relativity (i.e. the weighted relativity for all multiline combined which is shown on the top of the exhibit directly under the corresponding monoline relativity) divided by the average multiline relativity (i.e. the weighted average of the individual multiline weighted relativities which is shown on the bottom of the exhibit). When the indicated IPMF for a type of policy is capped, the balanced relativity is set equal to the product of the capped IPMF and the monoline balanced formula relativity, divided by the current IPMF.

EXPLANATORY NOTES TO TABLE 7 (Cont'd)

COLUMN (7)

NORMALIZED FORMULA RELATIVITY

The normalized relativity is equal to the balanced formula relativity divided by the average monoline/multiline combined relativity. This balances the average monoline/multiline relativity to unity.

COLUMN (8)

INDICATED LOSS COST CHANGES

The indicated multiline (by TOP) changes are calculated by taking the ratio of the TOP relativity (Column 7) to the monoline relativity.

For each type of policy the indicated IPMF is subject to a minimum value of 0.50 and a maximum value of 1.50. If an indicated IPMF falls outside one of those limits, it is capped at that amount, the aggregate loss costs for that type of policy are adjusted to the capped IPMF level, and the entire relativity review as described above is redone to take this into account. If an IPMF has been capped it is so noted in footnote A.



## CRIME AND FIDELITY

The reviews for Burglary and Theft and for Fidelity are done on a multistate basis, combining both multiline and monoline experience. However, unlike other coverages included in a Commercial Package Policy, there is no simultaneous review procedure for either Burglary and Theft or for Fidelity in which separate loss cost level changes can be determined for multiline and monoline experience. In the absence of a simultaneous review procedure, we are unable to determine Type of Policy relativities with which to price CPP policies relative to monoline policies and therefore have assumed a multiline change of 0.0% and thus no change to the historic Crime or Fidelity IPMFs.

NORTH DAKOTA

TABLE 8

COMMERCIAL I.M. RELATIVITY ANALYSIS

(1)	(2)	(3)	(4)	(5)
<u>TOP</u>	<u>BALANCED</u>	<u>CURRENT</u>	<u>INDICATED</u>	<u>SELECTED</u>
<u>10</u>	<u>RELATIVITY</u>	<u>IPMF</u>	<u>IPMF*</u>	<u>IPMF</u>
10	1.000	0.910	0.910	0.910
3X & 7X	1.000			

CLASSIFICATION

150	0.923
191	1.100
192	0.785
220	0.789
221	0.755
234	1.202
235	1.088
240	0.789
241	0.715
327	0.757
328	0.932
340	0.646
341	0.757
342	0.751
343	0.767
403	0.640
451	0.946
452	0.778
453	0.811
454	0.713
460	0.479
482	0.889
510	0.662
514	0.631
530	0.628
534	0.757

\*COLUMN (4) = COLUMN (3) \* (TOP 3X & 7X COLUMN (2) / TOP 10 COLUMN (2) )

NORTH DAKOTA

COMMERCIAL INLAND MARINE RELATIVITY ANALYSIS  
TABLE 9 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

<u>TYPE OF POLICY</u>	<u>RATING</u>	(1) <u>2016 AGGREGATE</u>	(2) <u>2012 - 2016</u>	(3) <u>FIVE-YEAR</u>	(4) <u>RELATIVITY</u>
<u>MONOLINE 10</u>	<u>GROUP</u>	<u>LOSS COSTS</u>	<u>AGGREGATE LOSS COSTS</u>	<u>EXP RATIO</u>	
	150	311,633	1,898,096	1.151	1.353
	191	5,446,492	15,816,054	1.032	1.213
	192	862,002	2,760,886	0.627	0.737
	220	5,112	87,903	5.716	6.717
	221	1,491	2,853	1.199	1.409
	234	5,224,155	20,144,072	0.600	0.705
	235	8,439,000	24,407,283	0.761	0.894
	240	928,183	3,685,254	0.656	0.771
	241	15,553	114,739	0.053	0.062
	327	18,917	91,546	0.000	0.000
	328	2,319,887	11,908,665	0.792	0.931
	340	40,688	87,993	0.000	0.000
	341	0	0	0.000	0.000
	342	19,188	65,375	0.555	0.652
	343	589	3,417	343.665	578.925
	403	1,600,852	5,771,545	0.345	0.405
	451	3,309,677	12,953,836	0.855	1.005
	452	34,702	137,467	1.628	1.913
	453	45,575	212,456	3.203	3.764
	454	164,836	745,300	0.734	0.863
	460	790,198	3,687,530	0.415	0.488
	482	839,364	2,841,134	0.986	1.159
	510	3,252	39,977	0.020	0.024
	514	446,469	1,612,361	0.339	0.398
	530	504,434	2,697,004	0.489	0.575
	534	0	0	0.000	0.000
	TOTAL#	31,372,249	111,772,746	0.785	0.922

NORTH DAKOTA

COMMERCIAL INLAND MARINE RELATIVITY ANALYSIS  
TABLE 9 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

		(1)	(2)	(3)	(4)
	RATING	2016 AGGREGATE	2012 - 2016	FIVE-YEAR	
<u>TYPE OF POLICY</u>	<u>GROUP</u>	<u>LOSS COSTS</u>	<u>AGGREGATE LOSS COSTS</u>	<u>EXP RATIO</u>	<u>RELATIVITY</u>
MULTILINE ## 3X & 7X	150	720,095	3,333,227	0.795	0.934
	191	603,595	2,704,067	0.774	0.910
	192	202,803	783,492	0.826	0.971
	220	6,439	28,512	1.526	1.793
	221	5,606	27,010	0.258	0.303
	234	12,669,443	52,530,286	1.162	1.365
	235	478,171	2,380,353	2.879	3.383
	240	11,651	60,061	1.983	2.330
	241	5,028	15,371	0.019	0.022
	327	2,942	18,862	0.000	0.000
	328	396	2,751	168.726	198.268
	340	32,828	132,609	0.016	0.019
	341	0	0	0.000	0.000
	342	6,082	30,546	0.000	0.000
	343	2,369	7,996	0.000	0.000
	403	479,869	2,417,275	0.739	0.868
	451	95,342	438,635	0.360	0.423
	452	38,096	206,651	0.535	0.629
	453	34,375	104,958	0.147	0.173
	454	228,162	984,183	0.274	0.322
	460	3,613,811	15,118,089	0.318	0.374
	482	127,496	760,961	0.693	0.814
	510	23,290	121,842	0.000	0.000
	514	63,169	300,866	0.073	0.086
	530	1,129,574	4,779,992	0.414	0.486
	534	0	0	0.000	0.000
	TOTAL#	20,580,632	87,288,595	0.952	1.119

## REFLECTS CURRENT IPMF OF 0.910.

NORTH DAKOTA

COMMERCIAL INLAND MARINE RELATIVITY ANALYSIS  
TABLE 9 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

<u>TYPE OF POLICY</u>	<u>RATING</u>	(1)	(2)	(3)	(4)
<u>TOTAL ALL TOPS#</u>	<u>GROUP</u>	<u>2016 AGGREGATE LOSS COSTS</u>	<u>2012 - 2016 AGGREGATE LOSS COSTS</u>	<u>FIVE-YEAR EXP RATIO</u>	<u>RELATIVITY</u>
	150	1,031,728	5,231,323	0.903	1.061
	191	6,050,087	18,520,121	1.006	1.182
	192	1,064,805	3,544,378	0.665	0.781
	220	11,551	116,415	3.380	3.972
	221	7,097	29,863	0.456	0.536
	234	17,893,598	72,674,358	0.998	1.173
	235	8,917,171	26,787,636	0.875	1.028
	240	939,834	3,745,315	0.672	0.790
	241	20,581	130,110	0.045	0.053
	327	21,859	110,408	0.000	0.000
	328	2,320,283	11,911,416	0.821	0.965
	340	73,516	220,602	0.007	0.008
	341	0	0	0.000	0.000
	342	25,270	95,921	0.421	0.495
	343	2,958	11,413	267.552	314.397
	403	2,080,721	8,188,820	0.436	0.512
	451	3,405,019	13,392,471	0.841	0.988
	452	72,798	344,118	1.056	1.241
	453	79,950	317,414	1.889	2.220
	454	392,998	1,729,483	0.467	0.549
	460	4,404,009	18,805,619	0.335	0.394
	482	966,860	3,602,095	0.947	1.113
	510	26,542	161,819	0.002	0.002
	514	509,638	1,913,227	0.306	0.360
	530	1,634,008	7,476,996	0.437	0.514
	534	0	0	0.000	0.000
	TOTAL#	51,952,881	199,061,341	0.851	1.000

# TOTAL IN COLUMN (3) IS AN AVERAGE USING COLUMN (1) AS WEIGHTS.

## EXPLANATORY NOTES TO TABLES 8 AND 9

### COMMERCIAL INLAND MARINE RELATIVITY ANALYSIS

#### EXPERIENCE BASE

The Commercial Inland Marine IPMF review presented in the attached exhibits is based on a review of the latest available five years of monoline and multiline experience through accident year 2016 for all companies reporting data to Insurance Services Office under the Inland Marine Module of the Commercial Statistical Plan (CSP) and the Intermediate Level of the Commercial Minimum Statistical Plan (CMSP).

#### ADJUSTMENT OF DATA

Aggregate loss costs for each year in the review period have been adjusted to the levels which would have been earned had the current loss costs applied throughout the experience period. Reported premiums are adjusted to current level on an individual policy basis by applying a factor equal to all loss cost level changes that have been implemented subsequent to the policy being written. These adjusted premiums are then converted to a loss cost at current level. In order to eliminate the impact of company deviations from the manual level and individual risk modifications which were in effect at the time the policy was written, aggregate loss costs are further adjusted based on reported Rate Modification and Rate Departure Factors/Loss Cost Multipliers. Multiline aggregate loss costs are further adjusted to the level of the current Implicit Package Modification Factor (IPMF). Incurred losses are loaded for all loss adjustment expenses by applying a factor of 1.105.

#### RELATIVITY ANALYSIS

For Inland Marine coverage, a multistate IPMF level is determined via a two-way relativity analysis similar to the analysis used in Basic Group I. The experience for all reviewed classes is used to form class group relativities. These relativities for monoline and multiline (all programs combined) are determined through an iterative procedure. The ratio of the multiline relativity to the monoline relativity is multiplied by the current IPMF to yield the indicated IPMF. The indicated IPMF is subject to a minimum value of 0.500 and a maximum value of 1.500. If an indicated IPMF falls outside one of those limits, it is capped at that amount, the premiums for that Type of Policy (i.e., TOP 10 versus TOP 3X) are adjusted to the capped IPMF level, and the entire relativity review is performed again to take this into account.

TABLE 10  
NORTH DAKOTA  
OWNERS, LANDLORDS AND TENANTS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS  
-----

TOP	(1) BAILEY FORMULA RELATIV.	(2) CREDIBILITY Z	(3) Z-WTD RELATIV.	(4) BALANCED RELATIV.	(5) INDICATED CHANGE *
10	0.930	0.094	0.993	1.010	
31	3.355	0.074	1.094	1.112	+10.1%
32	1.326	0.049	1.014	1.031	+2.1%
33	0.935	0.063	0.996	1.013	+0.3%
34	0.353	0.083	0.917	0.933	-7.6%
35	0.460	0.068	0.949	0.965	-4.5%
36	2.497	0.038	1.035	1.053	+4.3%
CLASS GROUP					
01	1.538	0.057	1.025	1.027	
02	2.301	0.046	1.039	1.041	
03	0.407	0.047	0.959	0.960	
04	1.253	0.019	1.004	1.006	
05	1.850	0.010	1.006	1.008	
06	0.386	0.028	0.974	0.975	
07	0.159	0.027	0.951	0.953	
08	2.370	0.021	1.018	1.020	
09	0.616	0.084	0.960	0.962	
10	1.197	0.067	1.012	1.014	
11	1.157	0.067	1.010	1.012	
12	0.849	0.082	0.987	0.988	
13	1.181	0.025	1.004	1.006	
16	0.732	0.007	0.998	1.000	

\* INDICATED CHANGE =  
(BALANCE RELATIVITY FOR TOP) / (BALANCED MONOLINE (TOP 10) RELATIVITY) - 1

TABLE 11  
NORTH DAKOTA  
MANUFACTURERS AND CONTRACTORS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS  
-----

	(1) BAILEY FORMULA RELATIV.	(2) CREDIBILITY Z	(3) Z-WTD RELATIV.	(4) BALANCED RELATIV.	(5) INDICATED CHANGE *
TOP					
10	0.924	0.110	0.991	0.994	
33	3.791	0.016	1.022	1.025	+3.1%
34	0.421	0.033	0.972	0.975	-1.9%
35	1.619	0.014	1.007	1.010	+1.6%
36	1.586	0.071	1.033	1.037	+4.3%
37	1.101	0.047	1.005	1.008	+1.4%
38	0.965	0.120	0.996	0.999	+0.5%
CLASS GROUP					
30	0.831	0.051	0.991	0.991	
31	1.370	0.061	1.019	1.020	
32	1.040	0.120	1.005	1.005	
33	0.907	0.068	0.993	0.994	
34	1.241	0.064	1.014	1.014	
35	6.682	0.022	1.043	1.043	
36	0.800	0.038	0.992	0.992	
37	0.134	0.014	0.972	0.973	
38	0.890	0.060	0.993	0.994	

\* INDICATED CHANGE =  
(BALANCE RELATIVITY FOR TOP) / (BALANCED MONOLINE (TOP 10) RELATIVITY) - 1



TABLE 12  
NORTH DAKOTA  
OWNERS, LANDLORDS AND TENANTS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS  
-----

SUMMARY OF EXPERIENCE USED IN RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1) CALENDAR A.Y.E. 12/31/2017 AGGREGATE LOSS COSTS AT CURRENT LEVEL	(2) CALENDAR A.Y.E. 2013 - 2017 AGG LOSS COST CURRENT LEVEL	(3) FIVE YEAR EXPERIENCE RATIO	(4) RELATIV.	(5) NUMBER OF OCCURRENCES	(6) BAL CELL RELATIV.
10 MONOLINE	01 FOOD&BEV. (RETAIL)	\$155,693	\$564,936	1.230	1.519	27	1.037
	02 RESTAURANTS	43,443	167,824	2.094	2.587	8	1.051
	03 STORES	29,500	167,180	0.140	0.172	9	0.970
	04 VENDING & RENTAL	1,832	10,800	1.185	1.464	3	1.016
	05 FOOD & BEV. DIST.	12,738	47,503	0.000	0.000	0	1.018
	06 NON-FOOD&BEV.DIST	8,133	63,103	0.045	0.055	3	0.985
	07 CLUBS, AMSMT&SPRTS	24,985	135,796	0.340	0.420	4	0.963
	08 HEALTH CARE FACIL	5,355	26,950	0.221	0.274	1	1.030
	09 HOTELS AND MOTELS	53,631	396,410	0.661	0.816	28	0.971
	10 SCHLS & CHURCHES	27,792	138,983	0.212	0.262	8	1.024
	11 APARTMENTS	295,685	748,983	0.846	1.046	42	1.022
	12 BUILDINGS&OFFICES	156,774	642,947	0.753	0.930	23	0.998
	13 MISC. PREMISES	6,032	34,621	0.511	0.631	4	1.016
	16 GOVT SUBDIVISIONS	581	3,080	0.943	1.165	1	1.010
	TOTAL *	\$822,174	\$3,149,116	0.866		161	
31 MULT MOTEL/HOTEL	09 HOTELS AND MOTELS	\$201,987	\$1,172,338	1.674	2.068	101	1.070
	TOTAL *	\$201,987	\$1,172,338	1.674		101	
32 MULT APARTMENT	11 APARTMENTS	\$100,064	\$497,653	1.315	1.624	41	1.043
	12 BUILDINGS&OFFICES	11,379	57,391	0.273	0.337	3	1.019
	TOTAL *	\$111,443	\$555,044	1.208		44	
33 MULT OFFICE	12 BUILDINGS&OFFICES	\$393,169	\$1,611,507	0.645	0.797	72	1.001
	13 MISC. PREMISES	1,249	6,107	0.000	0.000	0	1.019
	TOTAL *	\$394,418	\$1,617,614	0.643		72	
34 MULT MERCANTILE	01 FOOD&BEV. (RETAIL)	\$136,277	\$701,955	0.356	0.440	33	0.957
	02 RESTAURANTS	204,533	1,010,069	0.580	0.716	31	0.971
	03 STORES	56,150	467,985	0.234	0.289	31	0.896
	04 VENDING & RENTAL	1,144	6,447	0.000	0.000	0	0.938
	05 FOOD & BEV. DIST.	15,822	136,819	1.649	2.037	2	0.940
	06 NON-FOOD&BEV.DIST	17,916	196,352	0.222	0.274	12	0.910
	12 BUILDINGS&OFFICES	123,402	466,232	0.251	0.311	16	0.922
	TOTAL *	\$555,244	\$2,985,859	0.435		125	

TABLE 12  
NORTH DAKOTA  
OWNERS, LANDLORDS AND TENANTS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS  
-----

SUMMARY OF EXPERIENCE USED IN RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1)	(2)	(3)	(4)	(5)	(6)
		CALENDAR A.Y.E. 12/31/2017 AGGREGATE LOSS COSTS AT CURRENT LEVEL	CALENDAR A.Y.E. 2013 - 2017 AGG LOSS COST CURRENT LEVEL	FIVE YEAR EXPERIENCE RATIO	RELATIV.	NUMBER OF OCCURRENCES	BAL CELL RELATIV.
35 MULT INSTITUT.	07 CLUBS, AMSMT&SPRTS	\$2,259	\$15,920	1.940	2.396	3	0.919
	08 HEALTH CARE FACIL	41,577	154,061	0.067	0.082	5	0.984
	10 SCHLS & CHURCHES	154,099	724,401	0.570	0.704	74	0.978
	12 BUILDINGS&OFFICES	585	3,828	0.338	0.417	1	0.953
	13 MISC. PREMISES	91	3,570	118.506	146.405	2	0.970
	16 GOVT SUBDIVISIONS	837	4,128	0.000	0.000	0	0.964
	TOTAL *	\$199,448	\$905,908	0.531		85	
36 MULT SERVICES	03 STORES	\$2,035	\$9,925	0.000	0.000	0	1.011
	04 VENDING & RENTAL	8,350	46,961	2.527	3.122	4	1.059
	07 CLUBS, AMSMT&SPRTS	42,651	208,044	0.092	0.113	7	1.004
	08 HEALTH CARE FACIL	366	1,487	120.346	148.677	2	1.074
	09 HOTELS AND MOTELS	8,481	65,788	0.000	0.000	0	1.013
	12 BUILDINGS&OFFICES	36,626	133,705	1.363	1.683	8	1.041
	13 MISC. PREMISES	20,059	78,727	2.021	2.496	6	1.059
	TOTAL *	\$118,568	\$544,637	1.345		27	
TOTAL ALL TOP	01 FOOD&BEV. (RETAIL)	\$291,970	\$1,266,891	0.822		60	
	02 RESTAURANTS	247,976	1,177,893	0.845		39	
	03 STORES	87,685	645,090	0.197		40	
	04 VENDING & RENTAL	11,326	64,208	2.055		7	
	05 FOOD & BEV. DIST.	28,560	184,322	0.913		2	
	06 NON-FOOD&BEV.DIST	26,049	259,455	0.166		15	
	07 CLUBS, AMSMT&SPRTS	69,895	359,760	0.240		14	
	08 HEALTH CARE FACIL	47,298	182,498	1.015		8	
	09 HOTELS AND MOTELS	264,099	1,634,536	1.415		129	
	10 SCHLS & CHURCHES	181,891	863,384	0.515		82	
	11 APARTMENTS	395,749	1,246,636	0.965		83	
	12 BUILDINGS&OFFICES	721,935	2,915,610	0.632		123	
	13 MISC. PREMISES	27,431	123,025	1.983		12	
	16 GOVT SUBDIVISIONS	1,418	7,208	0.386		1	
	TOTAL *	\$2,403,282	\$10,930,516	0.809		615	

\* TOTALS IN COLUMN (3) ARE AVERAGES USING COLUMN (1) AS WEIGHTS.

TABLE 13  
NORTH DAKOTA  
MANUFACTURERS AND CONTRACTORS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS  
-----

SUMMARY OF EXPERIENCE USED IN RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1) CALENDAR A.Y.E. 12/31/2017 AGGREGATE LOSS COSTS AT CURRENT LEVEL	(2) CALENDAR A.Y.E. 2013 - 2017 AGG LOSS COST CURRENT LEVEL	(3) FIVE YEAR EXPERIENCE RATIO	(4) RELATIV.	(5) NUMBER OF OCCURRENCES	(6) BAL CELL RELATIV.
10 MONOLINE	30 SERVICE	\$71,946	\$411,301	0.715	1.049	11	0.986
	31 LIGHT CONTRACTING	64,385	319,770	1.583	2.322	16	1.014
	32 MEDIUM CONTRCTING	787,569	3,855,025	0.499	0.732	92	1.000
	33 HEAVY CONTRACTING	775,194	5,110,830	0.537	0.788	44	0.988
	34 DEALER OR DISTRIB	145,754	973,326	1.169	1.715	33	1.009
	35 LGT. MANUFACTURER	25,239	143,133	5.357	7.858	6	1.037
	36 MED. MANUFACTURER	58,485	310,133	0.181	0.265	5	0.987
	37 HVY. MANUFACTURER	100,510	414,642	0.227	0.334	2	0.967
	38 MISC. OPERATION	51,321	616,958	0.700	1.027	12	0.988
	TOTAL *	\$2,080,403	\$12,155,118	0.643		221	
33 MULT OFFICE	31 LIGHT CONTRACTING	\$198	\$6,979	0.000	0.000	0	1.045
	32 MEDIUM CONTRCTING	491	2,077	0.000	0.000	0	1.030
	33 HEAVY CONTRACTING	13,047	67,682	0.000	0.000	0	1.019
	38 MISC. OPERATION	6,181	29,667	7.574	11.111	5	1.018
	TOTAL *	\$19,917	\$106,405	2.351		5	
34 MULT MERCANTILE	30 SERVICE	\$16,161	\$229,885	0.015	0.022	1	0.966
	32 MEDIUM CONTRCTING	6,210	39,339	0.445	0.653	2	0.980
	34 DEALER OR DISTRIB	78,235	631,069	0.368	0.540	14	0.989
	38 MISC. OPERATION	2,992	17,219	0.857	1.257	3	0.969
	TOTAL *	\$103,598	\$917,512	0.331		20	
35 MULT INSTITUT.	31 LIGHT CONTRACTING	\$203	\$736	0.000	0.000	0	1.030
	32 MEDIUM CONTRCTING	13,962	67,639	1.169	1.715	4	1.015
	TOTAL *	\$14,165	\$68,375	1.152		4	
36 MULT SERVICES	30 SERVICE	\$3,797	\$27,071	0.075	0.110	1	1.027
	31 LIGHT CONTRACTING	9,298	59,711	4.683	6.869	4	1.057
	32 MEDIUM CONTRCTING	12,666	93,484	1.089	1.597	8	1.042
	33 HEAVY CONTRACTING	42,761	244,632	2.980	4.372	6	1.030
	34 DEALER OR DISTRIB	68,340	345,779	0.524	0.768	28	1.052
	36 MED. MANUFACTURER	5,274	53,412	0.000	0.000	0	1.028
	38 MISC. OPERATION	143,766	1,022,206	0.606	0.888	45	1.030
	TOTAL *	\$285,902	\$1,846,295	1.077		92	

TABLE 13  
NORTH DAKOTA  
MANUFACTURERS AND CONTRACTORS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS  
-----

SUMMARY OF EXPERIENCE USED IN RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1) CALENDAR A.Y.E. 12/31/2017 AGGREGATE LOSS COSTS AT CURRENT LEVEL	(2) CALENDAR A.Y.E. 2013 - 2017 AGG LOSS COST CURRENT LEVEL	(3) FIVE YEAR EXPERIENCE RATIO	(4) RELATIV.	(5) NUMBER OF OCCURRENCES	(6) BAL CELL RELATIV.
37 MULT INDUST/PROC.	31 LIGHT CONTRACTING	\$182	\$966	16.390	24.042	1	1.028
	32 MEDIUM CONTRCTING	20,270	191,616	0.377	0.553	2	1.013
	33 HEAVY CONTRACTING	236,389	2,536,482	0.804	1.179	11	1.002
	34 DEALER OR DISTRIB	1,716	24,193	0.000	0.000	0	1.022
	35 LGT. MANUFACTURER	9,867	69,423	2.073	3.041	3	1.051
	36 MED. MANUFACTURER	155,542	682,117	0.751	1.102	21	1.000
	37 HVY. MANUFACTURER	151,865	714,807	0.005	0.008	2	0.980
	38 MISC. OPERATION	3,218	10,932	0.000	0.000	0	1.001
	TOTAL *	\$579,049	\$4,230,536	0.585		40	
38 MULT CONTRACTORS	30 SERVICE	\$153,816	\$970,320	0.501	0.735	34	0.990
	31 LIGHT CONTRACTING	239,735	1,358,351	0.576	0.845	47	1.019
	32 MEDIUM CONTRCTING	635,443	4,121,847	0.891	1.306	154	1.004
	33 HEAVY CONTRACTING	151,140	1,005,134	0.213	0.312	24	0.993
	38 MISC. OPERATION	9,583	64,465	1.823	2.674	1	0.992
	TOTAL *	\$1,189,717	\$7,520,117	0.698		260	
TOTAL ALL TOP	30 SERVICE	\$245,720	\$1,638,577	0.525		47	
	31 LIGHT CONTRACTING	314,001	1,746,513	0.913		68	
	32 MEDIUM CONTRCTING	1,476,611	8,371,027	0.677		262	
	33 HEAVY CONTRACTING	1,218,531	8,964,760	0.629		85	
	34 DEALER OR DISTRIB	294,045	1,974,367	0.799		75	
	35 LGT. MANUFACTURER	35,106	212,556	4.434		9	
	36 MED. MANUFACTURER	219,301	1,045,662	0.581		26	
	37 HVY. MANUFACTURER	252,375	1,129,449	0.094		4	
	38 MISC. OPERATION	217,061	1,761,447	0.875		66	
	TOTAL *	\$4,272,751	\$26,844,358	0.682		642	

\* TOTALS IN COLUMN (3) ARE AVERAGES USING COLUMN (1) AS WEIGHTS.

TABLE 14  
NORTH DAKOTA  
PRODUCTS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS  
-----

TOP	(1) BAILEY FORMULA RELATIV.	(2) CREDIBILITY Z	(3) Z-WTD RELATIV.	(4) BALANCED RELATIV.	(5) INDICATED CHANGE *
10	0.988	0.372	0.995	0.996	
34	1.036	0.371	1.013	1.014	+ 1.8%
36	1.005	0.187	1.001	1.002	+ 0.6%
37	0.988	0.507	0.994	0.994	- 0.2%
CLASS GROUP					
3	0.924	0.500	0.961	0.965	
4	1.048	0.406	1.019	1.024	
5	1.107	0.132	1.014	1.018	
6	1.007	0.320	1.002	1.006	
7	1.006	0.182	1.001	1.005	

\* INDICATED CHANGE =  
(BALANCED RELATIVITY FOR TOP) / (BALANCED MONOLINE (TOP 10) RELATIVITY) - 1

NOTE: THE INDICATED CHANGES BY TOP WERE FURTHER ADJUSTED BY THE FOLLOWING  
DIFFERENTIALS:           TOP 34: 1.007  
                                  TOP 36: 1.012  
                                  TOP 37: 0.979

TABLE 15  
MULTISTATE  
PRODUCTS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS

-----  
SUMMARY OF EXPERIENCE USED IN RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1) CALENDAR A.Y.E. 12/31/2017 AGGREGATE LOSS COSTS AT CURRENT LEVEL	(2) CALENDAR A.Y.E. 2013 - 2017 AGG LOSS COST CURRENT LEVEL	(3) FIVE YEAR EXPERIENCE RATIO	(4) RELATIV.	(5) NUMBER OF OCCURRENCES	(6) BAL CELL RELATIV.
10 MONOLINE	03 MAN,DLR,DSTFD/DRG	\$18,227,491	\$79,500,211	0.856	0.869	1,461	0.961
	04 DLR,DST-NOTFD/DRG	9,616,743	42,155,667	1.119	1.136	640	1.019
	05 MAN.NTFD/DRG (LOW)	1,605,615	6,748,634	1.039	1.055	84	1.014
	06 MAN.NTFD/DRG (MED)	9,640,686	42,498,903	0.958	0.972	466	1.002
	07 MAN.NTFD/DRG (HGH)	2,568,561	11,286,663	1.018	1.033	129	1.001
	TOTAL *	\$41,659,096	\$182,190,078	0.957		2,780	
34 MULT MERCANTILE	03 MAN,DLR,DSTFD/DRG	\$5,166,155	\$25,851,441	1.131	1.148	791	0.979
	04 DLR,DST-NOTFD/DRG	29,011,611	140,165,685	1.037	1.052	1,972	1.038
	06 MAN.NTFD/DRG (MED)	7,625	57,567	0.000	0.000	0	1.020
	TOTAL *	\$34,185,391	\$166,074,693	1.051		2,763	
36 MULT SERVICES	04 DLR,DST-NOTFD/DRG	\$3,197,904	\$14,609,890	1.041	1.057	699	1.025
	06 MAN.NTFD/DRG (MED)	54,898	258,512	0.781	0.793	1	1.008
	TOTAL *	\$3,252,802	\$14,868,402	1.037		700	
37 MULT INDUST/PROC.	03 MAN,DLR,DSTFD/DRG	\$16,474,514	\$81,117,947	0.888	0.901	2,761	0.960
	05 MAN.NTFD/DRG (LOW)	4,070,679	20,897,437	1.092	1.108	269	1.012
	06 MAN.NTFD/DRG (MED)	28,248,516	131,744,418	0.987	1.002	1,582	1.001
	07 MAN.NTFD/DRG (HGH)	7,346,721	36,933,393	0.965	0.980	537	1.000
	TOTAL *	\$56,140,430	\$270,693,195	0.963		5,149	
TOTAL ALL TOP	03 MAN,DLR,DSTFD/DRG	\$39,868,160	\$186,469,599	0.905		5,013	
	04 DLR,DST-NOTFD/DRG	41,826,258	196,931,242	1.056		3,311	
	05 MAN.NTFD/DRG (LOW)	5,676,294	27,646,071	1.077		353	
	06 MAN.NTFD/DRG (MED)	37,951,725	174,559,400	0.979		2,049	
	07 MAN.NTFD/DRG (HGH)	9,915,282	48,220,056	0.979		666	
	TOTAL *	\$135,237,719	\$633,826,368	0.985		11,392	

\* TOTALS IN COLUMN (3) ARE AVERAGES USING COLUMN (1) AS WEIGHTS.

TABLE 16  
NORTH DAKOTA  
LOCAL PRODUCTS/COMPLETED OPERATIONS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS

	(1) BAILEY FORMULA RELATIV.	(2) CREDIBILITY Z	(3) Z-WTD RELATIV.	(4) BALANCED RELATIV.	(5) INDICATED CHANGE *
TOP					
10	0.969	0.752	0.977	0.973	
34	0.959	0.541	0.978	0.974	+ 0.1%
36	0.986	0.516	0.993	0.989	+ 1.6%
37	0.972	0.138	0.996	0.993	+ 2.1%
38	1.025	0.962	1.024	1.020	+ 4.8%
CLASS GROUP					
1	0.918	0.550	0.954	0.948	
2	1.037	0.495	1.018	1.012	
11	1.095	0.352	1.032	1.026	
12	1.016	1.000	1.016	1.010	
13	0.785	0.266	0.938	0.932	

\* INDICATED CHANGE =  
(BALANCED RELATIVITY FOR TOP) / (BALANCED MONOLINE (TOP 10) RELATIVITY) - 1

TABLE 16C  
MULTISTATE  
LOCAL PRODUCTS/COMPLETED OPERATIONS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS \*

STATE	(1) BAILEY FORMULA RELATIV	(2) CREDIBILITY Z	(3) Z-WTD RELATIV	(4) BALANCED RELATIV.
	1.418	0.386	1.144	1.144
	1.202	0.623	1.122	1.121
	1.425	0.229	1.085	1.084
	1.144	0.427	1.059	1.059
	1.413	0.160	1.057	1.057
North Dakota	1.437	0.153	1.057	1.057
	1.197	0.263	1.049	1.048
	1.096	0.505	1.048	1.047
	1.135	0.345	1.045	1.044
	1.122	0.368	1.043	1.043
	1.191	0.231	1.041	1.041
	1.128	0.326	1.040	1.040
	1.173	0.239	1.039	1.039
	1.148	0.224	1.031	1.031
	1.059	0.435	1.025	1.025
	1.052	0.453	1.023	1.023
	1.257	0.100	1.023	1.023
	1.083	0.227	1.018	1.018
	1.101	0.187	1.018	1.018
	1.090	0.192	1.017	1.016
	1.045	0.369	1.016	1.016
	1.037	0.307	1.011	1.011
	1.019	0.449	1.008	1.008
	1.027	0.143	1.004	1.003
	1.002	0.494	1.001	1.000
	1.002	0.131	1.000	1.000
	0.994	0.097	0.999	0.999
	0.992	0.402	0.997	0.997
	0.989	0.377	0.996	0.995
	0.975	0.190	0.995	0.995
	0.965	0.458	0.984	0.983
	0.924	0.241	0.981	0.981
	0.933	0.349	0.976	0.976
	0.895	0.260	0.972	0.971
	0.892	0.285	0.968	0.968
	0.788	0.160	0.963	0.962
	0.693	0.104	0.963	0.962
	0.889	0.364	0.958	0.958
	0.759	0.154	0.958	0.958
	0.843	0.288	0.952	0.952
	0.720	0.158	0.949	0.949
	0.765	0.195	0.949	0.949
	0.906	0.547	0.948	0.947
	0.793	0.238	0.946	0.946
	0.512	0.084	0.945	0.945
	0.639	0.136	0.941	0.941
	0.813	0.308	0.938	0.938
	0.889	0.581	0.934	0.933
	0.846	0.470	0.924	0.924
	0.756	0.321	0.914	0.914
	0.602	0.179	0.913	0.913
	0.804	0.575	0.882	0.882

\* Sorted by balanced relative change.



TABLE 17  
NORTH DAKOTA  
LOCAL PRODUCTS/COMPLETED OPERATIONS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS

-----  
SUMMARY OF EXPERIENCE USED IN RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1) CALENDAR A.Y.E. 12/31/2017 AGGREGATE LOSS COSTS AT CURRENT LEVEL	(2) CALENDAR A.Y.E. 2013 - 2017 AGG LOSS COST CURRENT LEVEL	(3) FIVE YEAR EXPERIENCE RATIO	(4) RELATIV.	(5) NUMBER OF OCCURRENCES	(6) BAL CELL RELATIV.
10 MONOLINE	01 RET. STRS-FOOD/DRG	\$5,118	\$17,725	0.000	0.000	0	0.975
	02 RET. STRS-NTFD/DRG	6,386	28,511	0.965	0.891	2	1.041
	11 COMP. OPS. (LOW)	13,610	28,618	0.534	0.493	2	1.056
	12 COMP. OPS. (MED)	386,108	2,279,565	0.959	0.884	18	1.039
	13 COMP. OPS. (HGH)	62,244	677,140	1.137	1.049	1	0.959
	TOTAL *	\$473,466	\$3,031,559	0.960		23	
34 MULT MERCANTILE	01 RET. STRS-FOOD/DRG	\$12,014	\$81,460	0.624	0.576	4	0.977
	02 RET. STRS-NTFD/DRG	10,393	50,948	2.808	2.591	2	1.042
	12 COMP. OPS. (MED)	15,296	126,707	2.214	2.043	1	1.040
	TOTAL *	\$37,703	\$259,115	1.871		7	
36 MULT SERVICES	01 RET. STRS-FOOD/DRG	\$331	\$2,872	0.000	0.000	0	0.991
	02 RET. STRS-NTFD/DRG	27,499	158,595	1.333	1.230	14	1.058
	11 COMP. OPS. (LOW)	6,446	43,430	5.095	4.700	4	1.073
	12 COMP. OPS. (MED)	4,951	68,693	0.032	0.030	1	1.056
	13 COMP. OPS. (HGH)	8,750	64,230	0.000	0.000	0	0.974
	TOTAL *	\$47,977	\$337,820	1.452		19	
37 MULT INDUST/PROC.	01 RET. STRS-FOOD/DRG	\$5	\$43	0.000	0.000	0	0.995
	11 COMP. OPS. (LOW)	125	649	0.000	0.000	0	1.077
	12 COMP. OPS. (MED)	12,831	97,154	1.046	0.965	1	1.059
	13 COMP. OPS. (HGH)	2,761	21,130	0.000	0.000	0	0.978
	TOTAL *	\$15,722	\$118,976	0.853		1	
38 MULT CONTRACTORS	11 COMP. OPS. (LOW)	\$21,371	\$109,274	9.902	9.135	0	1.107
	12 COMP. OPS. (MED)	548,472	3,230,384	1.615	1.490	74	1.089
	13 COMP. OPS. (HGH)	107,312	659,664	1.988	1.834	6	1.005
	TOTAL *	\$677,155	\$3,999,322	1.936		80	
TOTAL ALL TOP	01 RET. STRS-FOOD/DRG	\$17,468	\$102,100	0.429		4	
	02 RET. STRS-NTFD/DRG	44,278	238,054	1.626		18	
	11 COMP. OPS. (LOW)	41,552	181,971	6.058		6	
	12 COMP. OPS. (MED)	967,658	5,802,503	1.347		95	
	13 COMP. OPS. (HGH)	181,067	1,422,164	1.569		7	
	TOTAL *	\$1,252,023	\$7,746,792	1.533		130	

\* TOTALS IN COLUMN (3) ARE AVERAGES USING COLUMN (1) AS WEIGHTS.

TABLE 18  
MULTISTATE  
LOCAL PRODUCTS/COMPLETED OPERATIONS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS

-----  
SUMMARY OF EXPERIENCE USED IN RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1) CALENDAR A.Y.E. 12/31/2017 AGGREGATE LOSS COSTS AT CURRENT LEVEL	(2) CALENDAR A.Y.E. 2013 - 2017 AGG LOSS COST CURRENT LEVEL	(3) FIVE YEAR EXPERIENCE RATIO	(4) RELATIV.	(5) NUMBER OF OCCURRENCES	(6) BAL CELL RELATIV.
10 MONOLINE	01 RET.STRS-FOOD/DRG	\$2,570,942	\$11,000,189	0.978		762	
	02 RET.STRS-NTFD/DRG	2,629,603	11,663,817	1.219		494	
	11 COMP. OPS. (LOW)	4,024,036	18,069,271	1.329		705	
	12 COMP. OPS. (MED)	82,107,926	364,826,722	1.080		6,242	
	13 COMP. OPS. (HGH)	7,801,373	39,341,081	0.703		282	
	TOTAL *	\$99,133,880	\$444,901,080	1.062		8,485	
34 MULT MERCANTILE	01 RET.STRS-FOOD/DRG	\$8,002,266	\$37,342,335	0.940		3,591	
	02 RET.STRS-NTFD/DRG	5,186,195	23,434,483	1.012		665	
	12 COMP. OPS. (MED)	2,043,786	10,139,349	1.186		140	
	TOTAL *	\$15,232,247	\$70,916,167	0.997		4,396	
36 MULT SERVICES	01 RET.STRS-FOOD/DRG	\$729,961	\$3,439,653	1.065		197	
	02 RET.STRS-NTFD/DRG	12,256,900	48,452,562	1.088		2,518	
	11 COMP. OPS. (LOW)	3,094,937	14,012,389	1.111		510	
	12 COMP. OPS. (MED)	4,447,208	21,021,492	0.941		694	
	13 COMP. OPS. (HGH)	989,332	5,061,195	1.199		87	
	TOTAL *	\$21,518,338	\$91,987,291	1.065		4,006	
37 MULT INDUST/PROC.	01 RET.STRS-FOOD/DRG	\$26,867	\$90,627	2.388		1	
	11 COMP. OPS. (LOW)	114,535	530,208	1.229		19	
	12 COMP. OPS. (MED)	3,550,014	17,334,430	1.039		268	
	13 COMP. OPS. (HGH)	40,532	307,938	0.580		0	
	TOTAL *	\$3,731,948	\$18,263,203	1.050		288	
38 MULT CONTRACTORS	11 COMP. OPS. (LOW)	\$8,122,432	\$37,446,153	1.157		634	
	12 COMP. OPS. (MED)	143,209,202	677,397,379	1.125		12,565	
	13 COMP. OPS. (HGH)	14,631,915	67,788,410	0.919		693	
	TOTAL *	\$165,963,549	\$782,631,942	1.108		13,892	
TOTAL ALL TOP	01 RET.STRS-FOOD/DRG	\$11,330,036	\$51,872,804	0.960		4,551	
	02 RET.STRS-NTFD/DRG	20,072,698	83,550,862	1.086		3,677	
	11 COMP. OPS. (LOW)	15,355,940	70,058,021	1.193		1,868	
	12 COMP. OPS. (MED)	235,358,136	1,090,719,372	1.105		19,909	
	13 COMP. OPS. (HGH)	23,463,152	112,498,624	0.858		1,062	
	TOTAL *	\$305,579,962	\$1,408,699,683	1.084		31,067	

\* TOTALS IN COLUMN (3) ARE AVERAGES USING COLUMN (1) AS WEIGHTS.

EXPLANATORY NOTES TO GENERAL LIABILITY  
RELATIVITY ANALYSIS - TABLES 10 THROUGH 18.

OBJECTIVES

The objectives of this procedure are to:

- 1) determine monoline loss cost level needs for the appropriate rating variables;
- 2) determine indicated changes to the eight liability Commercial Package Policy (CPP) Package Modification Factors (PMFs) based on Premises/Operations and Products/Completed Operations data.

EXPERIENCE  
BASE

The experience used in this relativity analysis is the latest five (5) years of accident year data, as reported under the Commercial Statistical Plan with aggregate loss costs adjusted to current loss cost level (multiline aggregate loss costs adjusted additionally by the current Implicit Package Modification Factors). Losses have been trended and developed in the Relativity Analysis. ALCCCL have been trended.

SIMULTANEOUS  
DETERMINATION  
OF RATING  
VARIABLE  
RELATIVITIES

Once the aggregate loss costs at current level and incurred losses used in the analysis have been appropriately adjusted, the 5-year experience ratios are calculated for each combination of the appropriate rating variables. From these ratios, relativities to the statewide 5-year experience ratio are calculated. These relativities are then used in a minimum bias iterative review procedure, which simultaneously determines the relativities for each rating variable.

The purpose of a simultaneous review procedure is to arrive at a set of relativities for each rating variable that best represent the experience. For example, the type of policy relativities will serve to derive the relationship of CPP policies relative to monoline policies, via the PMF, while the class group relativities will serve to derive the relationship of the various classifications relative to one another. An iterative technique is used to derive relativities for each rating variable. This procedure is in contrast to a one-way type of review, wherein relativities for each rating variable would each be reviewed separately.

Such one-way types of review do not take into account differing percentages of experience of each rating variable within the other rating variables. The simultaneous review procedure accounts for these different distributions in generating relativities for each rating variable.

RATING  
VARIABLES  
USED

For Premises/Operations and Products/Completed Operations, the rating variables used in the relativity analysis are as follows:

Owners, Landlords and Tenants -	type of policy and class group
Manufacturers and Contractors -	type of policy and class group
Products -	type of policy and class group
Local Products/Completed Operations-	type of policy, state and class group

EXPLANATORY NOTES TO GENERAL LIABILITY  
RELATIVITY ANALYSIS - TABLES 10 THROUGH 18.

ITERATIVE  
PROCEDURE

The iterative technique referred to in the previous paragraph solves for a set of relativities for each rating variable based on the experience for the cells; that is, based on the experience ratio and latest year adjusted aggregate loss cost volume for each combination of rating variables relative to the experience ratio and adjusted aggregate loss cost volume for all combinations of rating variables combined. Specifically, the iterative procedure uses the following formulas:

For Owners, Landlords and Tenants:

$$TOP_i = \frac{\sum_j W_{ij} r_{ij}}{\sum_j W_{ij} CG_j} \quad \text{where } 1 \leq i \leq m$$
$$CG_j = \frac{\sum_i W_{ij} r_{ij}}{\sum_i W_{ij} TOP_i} \quad \text{where } 1 \leq j \leq n$$

$TOP_i$  is the relative change for the  $i^{\text{th}}$  type of policy;

$CG_j$  is the relative change for the  $j^{\text{th}}$  class group;

$W_{ij}$  is the aggregate loss costs at current level for the  $i^{\text{th}}$

type of policy and  $j^{\text{th}}$  class group;

$r_{ij}$  is the relative change for the  $i^{\text{th}}$  type of policy

and  $j^{\text{th}}$  class group;

$m$  is the number of types of policy in the analysis;

$n$  is the number of class groups in the analysis;

EXPLANATORY NOTES TO GENERAL LIABILITY  
RELATIVITY ANALYSIS - TABLES 10 THROUGH 18.

For Manufacturers and Contractors, and Products:

$$TOP_i = \frac{\sum_j W_{ij} r_{ij}}{\sum_j W_{ij} CG_j} \quad \text{where } 1 \leq i \leq m$$
$$CG_j = \frac{\sum_i W_{ij} r_{ij}}{\sum_i W_{ij} TOP_i} \quad \text{where } 1 \leq j \leq n$$

$TOP_i$  is the relative change for the  $i^{\text{th}}$  type of policy;

$CG_j$  is the relative change for the  $j^{\text{th}}$  class group;

$W_{ij}$  is the aggregate loss costs at current level for the  $i^{\text{th}}$

type of policy and  $j^{\text{th}}$  class group;

$r_{ij}$  is the relative change for the  $i^{\text{th}}$  type of policy

and  $j^{\text{th}}$  class group;

$m$  is the number of types of policy in the analysis;

$n$  is the number of class groups in the analysis;

EXPLANATORY NOTES TO GENERAL LIABILITY  
RELATIVITY ANALYSIS - TABLES 10 THROUGH 18.

For Local Products/Completed Operations:

$$TOP_i = \frac{\sum_j \sum_k W_{ijk} r_{ijk}}{\sum_j \sum_k W_{ijk} CG_j ST_k} \quad \text{where } 1 \leq i \leq m$$

$$CG_j = \frac{\sum_i \sum_k W_{ijk} r_{ijk}}{\sum_i \sum_k W_{ijk} TOP_i ST_k} \quad \text{where } 1 \leq j \leq n$$

$$ST_k = \frac{\sum_i \sum_j W_{ijk} r_{ijk}}{\sum_i \sum_j W_{ijk} TOP_i CG_j} \quad \text{where } 1 \leq k \leq p$$

$TOP_i$  is the relative change for the  $i^{th}$  type of policy;

$CG_j$  is the relative change for the  $j^{th}$  class group;

$ST_k$  is the relative change for the  $k^{th}$  state;

$W_{ijk}$  is the aggregate loss costs at current level for the  $i^{th}$

type of policy,  $j^{th}$  class group and  $k^{th}$  state;

$r_{ijk}$  is the relative change for the  $i^{th}$  type of policy,

$j^{th}$  class group and  $k^{th}$  state;

$m$  is the number of types of policy in the analysis;

$n$  is the number of class groups in the analysis;

$p$  is the number of states in the analysis;

EXPLANATORY NOTES TO GENERAL LIABILITY  
RELATIVITY ANALYSIS - TABLES 10 THROUGH 18.

ITERATIVE  
PROCEDURE  
(Cont'd)

For example, for Owners, Landlords and Tenants, the procedure starts by inserting the actual relativities for type of policy into the second formula to get a class group relativity. The resultant class group relativities then produce a new set of type of policy relativities. The process continues on in that fashion until there is no appreciable difference from one iteration to the next.

APPLICATION OF  
CREDIBILITY

Consideration is then given to the credibility of the experience for each rating variable. The credibility of each of these categories is based on the formula

$$Z = \sqrt{P/18,000} \text{ for Owners, Landlords and Tenants, } Z = \sqrt{P/18,000} \text{ for}$$

$$\text{Manufacturers and Contractors and } Z = \sqrt{P/20,000} \text{ for Products, where P}$$

is the 5 year occurrence total for a given class group, territory or type of policy. For Local Products/Completed Operations, separate formulas are used to calculate the credibility of the experience for each type of policy and class group versus the credibility of the experience for each state, namely  $Z$

$$= \sqrt{P/15,000} \text{ for type of policy and class group, and } Z = \sqrt{P/5,500} \text{ for}$$

state (in this case, P is the 5 year occurrence total for a given state).

Credibility-weighted relativities are then calculated as follows:

$$W = R^Z \quad \text{where:}$$

$Z$  is the class group, state or type of policy credibility;

$R$  is the class group, state or type of policy relativity;

$W$  is the credibility-weighted relativity.

The resulting credibility-weighted relativities are then balanced to assure that the average relativity remains at unity.

EXPLANATORY NOTES TO GENERAL LIABILITY  
RELATIVITY ANALYSIS - TABLES 10 THROUGH 18.

MULTILINE  
CONSIDERATIONS

The monoline relativities, the class group and state relativities which result from the aforementioned procedures are then used to generate indicated monoline classification loss cost changes. The multiline relativities, the class group and state relativities which result from the aforementioned procedures are then used to generate multiline indications that apply to the current Implicit Package Modification Factors. The indicated IPMFs are calculated as follows:

$$\text{TOP y indicated IPMF} = \frac{(\text{TOP y current IPMF}) \times (\text{TOP y relativity})}{(\text{monoline relativity})}$$

For each CPP Type of Policy the indicated IPMF is subject to a minimum value of 0.50 and a maximum value of 1.50. If an indicated IPMF falls outside one of those limits, it is capped at that amount, the aggregate loss costs for that Type of Policy are adjusted to the capped IPMF level, and the entire relativity review as described above is re-performed to take this into account.

---



COMMERCIAL PACKAGE POLICY

TABLE OF CONTENTS

SECTION C - REVISED CLM DIVISION NINE

Commercial Package Policy Package Modification Factors (Revised MLCP-PMF-1) ..... C-2

**COMMERCIAL LINES MANUAL  
DIVISION NINE – MULTIPLE LINE  
COMMERCIAL PACKAGE POLICY  
PACKAGE MODIFICATION FACTORS**

**NORTH DAKOTA (33)**

**PACKAGE MODIFICATION FACTORS**

<b>Package Modification Assignment (PMA)</b>	<b>Premium From CLM Division</b>			
	<b>Two</b>	<b>Three, Four, Five, Eight  Property</b>	<b>Four, Six  Liability</b>	<b>All Other Divisions</b>
Apartment House	.90	.99	1.00	1.00
Contractors	.90	1.00	1.00	1.00
Industrial & Processing	.90	.97	1.00	1.00
Institutional	.90	.89	1.00	1.00
Mercantile	.90	.94	1.00	1.00
Motel/Hotel	.90	1.00	1.00	1.00
Office	.90	.92	1.00	1.00
Service	.90	1.00	1.00	1.00

**Table 1. Package Modification Factors**