RULES – IMPLEMENTATION   FEBRUARY 10, 2021

GENERAL LIABILITY   LI-GL-2021-072

MARYLAND GENERAL LIABILITY INCREASED LIMIT FACTORS TO BE IMPLEMENTED

KEY MESSAGE

The revised increased limit factors represent a combined change of +2.6% from the increased limit factors currently in effect.

UPGRADE TO WORD AND EXCEL DOCUMENTS

ISO is currently implementing changes to our authoring and delivery systems so that **newly created** documents will be delivered in Office 365 .docx/.xlsx format. These changes will be phased in by product/service tentatively beginning in second quarter 2021. We are providing advance notification so that you may prepare your internal systems. Products impacted include, but are not limited to, documents delivered/accessed via Circulars, CLM, EFD, ERC, Filings, FIRST, Forms Library (including PolicyWriting Support Forms Instructional Supplement), IntegRater, PRM, Statistical Plans and Suite +.

BACKGROUND

In circular LI-GL-2020-043, we provided you with information about the General Liability increased limit experience review.

ISO ACTION

We are implementing GL-2021-IALL1, which revises the increased limits for Premises/Operations Liability (subline code 334) and Products/Completed Operations Liability (subline code 336) class tables in Rule 56. of Division Six of the Commercial Lines Manual.

Refer to the attached explanatory material for complete details about the filing.

IMPORTANT NOTE ON RISK LOAD REFLECTION

The increased limit factors in this document incorporate a procedure for reflecting the increased risk or variation in experience associated with higher limit policies in the increased limits ratemaking formula. For all General and Commercial Automobile Liability tables, this procedure generates increased limit factors that are on average (across all state groups) 6.0% higher than the factors would be if calculated without risk load. For the state group that includes this jurisdiction, the indicated increased limit factors are on average 3.7% higher for Premises/Operations and 11.8% higher for Products/Completed Operations Liability than such factors would be if calculated without risk load.

The inclusion of risk load in increased limit factors may have implications on basic limit loss cost multipliers. Specifically, assuming industrywide averages and the ISO increased limit factors in this document, the inclusion of risk load may result in additional revenue of 3.7% for Premises/Operations Liability and 11.8% for Products/Completed Operations Liability. All sources of revenue, including the revenue resulting from the risk load in these increased limit factors, should be kept in mind when determining loss cost multipliers.

EFFECTIVE DATE

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

These changes are applicable to all policies effective on or after August 1, 2021

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 JULY 1, 2021. 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 GL-2021-IALL1, 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-2019-057 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 8-21 (or the earliest possible subsequent date), along with any new and/or revised manual pages.

REFERENCE(S)

- LI-GL-2020-043 (03/13/2020) 2020 General Liability Increased Limits Experience Reviewed By Staff

- LI-CL-2019-057 (12/10/2019) Revised Lead Time Requirements Listing

ATTACHMENT(S)

Filing GL-2021-IALL1

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DATA QUALITY

Statistical plan data reported to ISO is first processed through a system of rigorous automated data verification procedures so that only valid data would be used for ratemaking. Subsequent to this initial data submission review, additional analyses on the statistical plan data involving an even more customized data review for this line were performed by staff. During these processes, various data records were excluded from the review. The ISO staff responsible for this circular also reviewed the data for reasonableness.

ACKNOWLEDGMENT OF ACTUARIAL QUALIFICATIONS

The American Academy of Actuaries' "Qualifications 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 rules filing a Statement of Actuarial Opinion; therefore, we are including the following acknowledgment:

I, Ping Hsin Lee, am an Actuarial Associate for ISO, and I, James Davidson, am a Senior Director of Commercial Lines Actuarial Products, including Increased Limits 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:

  Yang Zhou
  Actuarial Operations
  (201) 469-2734
  Yang.Zhou@verisk.com
  casualtyactuarial@verisk.com

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

  William Jones
  Production Operations, Compliance and Product Services
  (201) 469-2815
  productionoperations@verisk.com

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

  E-mail: info@verisk.com
  Phone: 800-888-4476

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INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

EXECUTIVE SUMMARY

PURPOSE

This document:

- revises increased limit factors (ILFs) for all Premises/Operations Liability and Products/Completed Operations Liability classes. These increased limit factors represent a +1.3% change on average from the Premises/Operations increased limit factors currently in effect and a +5.9% change on average from the Products/Completed Operations increased limit factors currently in effect. The General Liability combined effect is +2.6%.

- provides the analyses used to derive the revised increased limit factors, and

- modifies increased limits table assignments for Products/Completed Operations classes.

DEFINITION OF
INCREASED
LIMIT FACTORS

We publish liability loss costs at the basic limit. The basic limit for General Liability is $100,000/$200,000 (occurrence/aggregate). The loss cost for a given policy limit is the product of the basic limit loss cost and the increased limit factor for that policy limit.

An increased limit factor is the ratio of two sums. The numerator is the cost to the insurer of writing a policy at the desired limit, including the average prospective indemnity, all loss adjustment expense and the risk load. The denominator is the sum of the same quantities at the basic limit. The average prospective indemnity in the published ILFs reflects per occurrence and aggregate limits.

INCREASED
LIMITS TABLES

We group classifications with similar increased limits experience into increased limits tables. Both Premises/Operations and Products/Completed Operations have three tables corresponding with low, medium and high loss severity. The tables are 1, 2 and 3 for Premises/Operations and A, B and C for Products/Completed Operations.

We in this filing are including revisions to the General Liability Increased Limits Table Assignments (ILTAs). The ILTAs are used to assign the various General Liability classes to the various ILF tables. In this filing, we update the assignments for four Products/Completed Operations classes, to achieve greater homogeneity and predictability for each Products/Completed Operations table.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

EXECUTIVE SUMMARY

INCREASED
LIMIT FACTOR
CHANGES

The statewide per occurrence increased limit factor changes are:

Premises/Operations			Products/Completed Operations		
	Indicated	Selected		Indicated	Selected
Table 1	+2.2%	+2.2%	Table A	-0.9%	-0.9%
Table 2	+0.7%	+0.7%	Table B	+1.9%	+1.9%
Table 3	+1.6%	+1.6%	Table C	+14.7%	+14.7%
TOTAL	+1.3%	+1.3%	TOTAL	+5.9%	+5.9%
General Liability Combined				Indicated	Selected
				+2.6%	+2.6%

The overall General Liability change of +2.6% is based on a comparison of the average indicated and current General Liability increased limit factors. For the purpose of this calculation, the average General Liability increased limit factors are a weighted average of the overall Premises/Operations and Products/Completed Operations factors. The state group basic limit loss weights used are 0.7317 and 0.2683 for Premises/Operations and Products/Completed Operations, respectively.

In this document, the selected per occurrence factors are the indicated per occurrence factors. We judgmentally adjust some occurrence/aggregate factors developed from the per occurrence factors to maintain consistency between successive policy limits within each table.

PRIOR ISO
REVISIONS

The most recent Premises/Operations and Products/Completed Operations increased limits revisions were:

	Premises/Operations	Products/Completed Operations
Designation	GL-2020-IPOP1	GL-2019-IALL1
Date Implemented	08/01/2020	08/01/2019
Indicated Change	+1.7%	-1.2%
Selected Change	+1.7%	-1.2%
Implemented Change	+1.7%	-1.2%

(The overall General Liability percentage change in filing GL-2019-IALL1 was +0.7%.)

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RISK LOAD PROCEDURE	The increased limit factors in this document incorporate a procedure for reflecting the increased risk or variation in experience associated with higher limit policies in the increased limits ratemaking formula. For all General and Commercial Automobile Liability tables, this procedure generates increased limit factors that are on average (across all state groups) 6.0% higher than the factors would be if calculated without risk load. For this state group, the indicated increased limit factors are on average 3.7% higher for Premises/Operations and 11.8% higher for Products/Completed Operations than such factors would be if calculated without risk load.

HISTORICAL SOURCE DATA	For this filing, we used the following data:

- Experience from occurrence-coverage policies for risks subject to Premises/Operations and Products/Completed Operations increased limits tables as reported to ISO by companies that filed detailed statistics. This includes excess and umbrella data reported under the Commercial Statistical Plan, which adds greater credibility to the analysis of higher layers. Experience for risks reported in the ISO Annual Call for Excess and Umbrella Policy Claims supplements primary data for pricing higher policy limits.

- Experience for accident years ending December 31, 2005 to December 31, 2018, which were settled during calendar years 2014 to 2018.

Please note that for Premises/Operations, we review the data by state or state group. Only the largest states have sufficient volume to be reviewed individually. We have grouped all other states based on an analysis of their historical distributions. For certain calculations, we use multistate experience.

We reviewed Maryland in State Group A, which includes Hawaii, Idaho, Iowa, Kansas, Kentucky, Maine, Maryland, Minnesota, Nebraska, North Dakota, Puerto Rico, Rhode Island, South Dakota, Tennessee and Vermont.

For Products/Completed Operations, we continue to review the data on a multistate basis. This is because the data is sparser and the loss exposure is more likely to encompass multiple states.

Overall and by-table indicated changes are calculated using state group weights. For consistency, both Premises/Operations and Products/Completed Operations use state group weights.

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GENERAL LIABILITY INCREASED LIMIT FACTORS

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EFFECT ON MANUAL PAGES	Upon implementation of this filing, which revises Premises/Operations and Products/Completed Operations increased limit factors and Products/Completed Operations increased limits table assignments, we will publish revised manual pages in Division Six of the Commercial Lines Manual. The revised increased limit factors will appear in Rule 56 as Tables 56.B.1., 56.B.2., 56.B.3., 56.B.4., 56.B.5. and 56.B.6.. The revised ILTAs for Products/Completed Operations also will appear in Rule 56, in Table 56.C.,#5(ILTA).

COMPANY DECISION	We encourage each insurer to decide independently whether the judgments made and the procedures or data used by ISO in developing increased limit factors are appropriate. 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 ISO. Therefore, the ISO statistical database is much larger than any individual company's. A broader database enhances the validity of the ratemaking analysis. At the same time, 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 projections based on the aggregate data.
	Some calculations included in this document involve areas of ISO staff judgment. Each company should carefully review and evaluate its own experience in order to determine whether the increased limit factors developed by ISO are appropriate for its use.
	This material has been developed exclusively by the staff of ISO.

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MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

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MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

SCOPE OF REVISION

SUMMARY OF INCREASED LIMIT FACTOR CHANGES	**Exhibits 1 and 2** (*Summary of Increased Limit Factor Changes*) provide a summary of the current, indicated and selected per occurrence increased limit factors for Premises/Operations and Products/Completed Operations, as well as the overall statewide average indicated and filed changes for General Liability combined.

SUMMARY OF REVISED INCREASED LIMIT FACTORS	The first three pages in **Exhibit MP** (*Manual Pages*) at the end of this filing display the revised Premises/Operations increased limit factors as they will appear in Division Six of the Commercial Lines Manual for Tables 1, 2 and 3 (Tables 56.B.1., 56.B.2. and 56.B.3., in the manual rule pages, respectively). The subsequent three pages in the exhibit display the revised Products/Completed Operations increased limit factors as they will appear in the Commercial Lines Manual for Tables A, B and C (Tables 56.B.4., 56.B.5. and 56.B.6., in the manual rule pages, respectively).

The increased limit factors shown are the ratio of the sum of indemnity, allocated loss adjustment expense, unallocated loss adjustment expense and risk load at each specific limit to the same sum evaluated at the basic limit of $100,000 per occurrence/$200,000 aggregate. Therefore, the factor listed for the basic limit is 1.00.

Certain factors have been judgmentally modified to maintain consistency within the tables. This ensures that the relative incremental costs (as measured by the change in ILFs divided by change in policy limits) for progressively higher occurrence and/or aggregate limits do not increase (i.e., the marginal costs are either constant or decreasing).

Exhibits 3 and 4 (*Comparison of Current and Revised Occurrence/Aggregate Increased Limit Factors*) compare the current and revised occurrence/aggregate increased limit factors for a sample of policy limits for Premises/Operations and Products/Completed Operations, respectively.

SUMMARY OF REVISED INCREASED LIMITS TABLE ASSIGNMENTS	**Exhibit MP** also contains all of the increased limits table assignments (ILTAs) for the classes in Premises/Operations subline 334 and Products/Completed Operation subline 336 in Rule 56.C., including the revisions to the ILTAs for four Products/Completed Operations classes. The four classes are displayed in Table 56.C.#5(ILTA), with the changes being:

- Classes 91342, 91583 and 91585 are shifted from Table C to Table B, and
- Class 95647 is shifted from Table B to Table A.

Our revisions to the ILTAs are based on a credibility-based analysis of empirical indemnity-only increased limit factors by class. In the analysis, we also calculated factors for the class groups used in our basic limit loss cost reviews, weighting the class group factors as complements of the by-class factors to produce enhanced homogeneity results within each increased limits table.

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MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

SCOPE OF REVISION

OCCURRENCE/
AGGREGATE
SIMULATION

To generate the occurrence/aggregate increased limit factors, we begin with the calculation of indicated increased limit factors, displayed in **Exhibits 5-10**. We reflect the aggregate policy limit by combining an indemnity severity distribution (determined from the parameters provided in **Exhibit 14**) to determine the loss size, and a mixed negative binomial distribution to calculate the number of occurrences. We use the frequency distribution to simulate occurrence counts (for a large number of simulated policies), and the severity distribution to generate the losses for the simulated occurrences. This combined distribution produces limited losses at various combinations of occurrence and aggregate limits.

We use a weighted mixture of negative binomial distributions to generate the number of occurrences for each simulated policy. The probability of k occurrences is equal to

$$p_k = \sum_j w_j p_{kj}$$

where:
w_j is the weight of each component negative binomial distribution j;

and p_{kj} is the probability of k occurrences for each component distribution, such that:

$$p_{kj} = \frac{\Gamma(k + r_j)}{k!\ \Gamma(r_j)} \left(\frac{\beta_j}{1 + \beta_j}\right)^{r_j} \left(\frac{1}{\left(1 + \beta_j\right)^k}\right)$$

The grand mean of the mixture distribution is equal to:

$$m = \sum_j w_j m_j$$

where m_j is the mean for component distribution j, calculated as:

$$m_j = \frac{r_j}{\beta_j}$$

Exhibit 21 (*Mixed Negative Binomial Frequency Parameters*) shows the frequency parameters for Premises/Operations and Products/Completed Operations, determined on a multistate basis.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

OVERVIEW
OF INCREASED
LIMIT FACTOR
CALCULATIONS

This section describes the methods we use to calculate increased limit factors for policies that are subject to occurrence limits, but not annual aggregate limits. Section A describes the aggregate method by which we determine our occurrence/aggregate increased limit factors. The per-occurrence loss distributions and loss adjustment expense provisions that are described in this section are key components of this aggregate process. Also, the calculation of increased limit factors for occurrence-only limits illustrates the principles underlying the calculation for occurrence/aggregate limits.

ISO defines an increased limit factor (ILF) as the ratio of the expected cost (to the insurer) of a higher limit policy divided by the expected cost of a basic limit policy. The cost components of the occurrence-limit increased limit factor calculation are:

- Limited Average Severity (LAS)

  The average indemnity per occurrence, limited to a given policy limit, at ultimate settlement value, and reflecting trend to the average accident date in the prospective experience period.

  In this document, we use the term "indemnity" to mean the amount paid to the claimant (excluding all loss adjustment expense). Indemnity is subject to policy limits. We construct an occurrence-size distribution that describes the indemnity before the effect of policy limits. By using this distribution, we can calculate expected future indemnity for any given policy limit.

- Allocated Loss Adjustment Expense (ALAE)

  The average claim settlement expense per occurrence for those expenses in the settlement process that can be assigned to an individual claim. The largest component of ALAE is legal defense costs.

- Unallocated Loss Adjustment Expense (ULAE)

  The average claim settlement expense per occurrence for those expenses in the settlement process that cannot be assigned to an individual claim (e.g., the salaries of claims adjusters).

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

OVERVIEW
OF INCREASED
LIMIT FACTOR
CALCULATIONS
(continued)

- Risk Load (RL)

  A loading that varies by policy limit and reflects the greater risk of issuing higher limit policies, with the fundamental purpose of making each policy limit being written equally attractive to insurers. The ISO risk load approach accomplishes this by offsetting the greater risk associated with higher limit policies with an appropriate risk load provision that increases as the policy limit increases. The procedure recognizes two kinds of risk:

  Process Risk - the inherent variability of the insurance process, reflected in the difference between actual losses and expected losses.

  Parameter Risk - the inherent variability of the estimation process, reflected in the difference between theoretical (true but unknown) expected losses and the estimated expected losses.

The ISO increased limit factor is the ratio of these costs at a specified limit divided by the corresponding costs at the basic limit. Given a basic limit b, the factor at occurrence policy limit PL is as follows:

$$ILF(PL) = \left[\frac{LAS(PL) + ALAE(PL) + ULAE(PL) + RL(PL)}{LAS(b) + ALAE(b) + ULAE(b) + RL(b)} \right]$$

Exhibits 5 through **10** *(Calculation of Increased Limit Factors)* show the indicated and selected occurrence-limit increased limit factors for each of the increased limits tables from ISO's 2020 General Liability increased limits review. Also shown are the underlying components of the calculation by limit. An overview of these four components of the occurrence-limit increased limit factor calculation follows.

STATE GROUPS

For Premises/Operations, we review the data by state or state group. Only the largest states have sufficient volume to review individually. The largest 15 states are reviewed individually. The remaining 37 jurisdictions are grouped into a three-tiered state group structure to accommodate relatively low, medium and high ILF state groups - State Groups A, B and C. State Group A is comprised of the lowest ILF jurisdictions, State Group C includes of the highest ILF jurisdictions, and State Group B contains the remainder of the jurisdictions.

To generate the complements of credibility, we group each of the individually reviewed states with either State Group A, B or C, creating three larger state group complements encompassing all states. State group experience is combined with the corresponding state group complement experience at each layer of loss to enhance the stability of the increased limit factors. This is an application of the standard actuarial practice of credibility weighting. We provide a definition of the state group complements (referred to as A', B' and C') and discuss credibility weighting in more detail in the Combining State Group Data with State Group Complement Data subsection later in this document.

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SUPPORTING MATERIAL

STATE GROUPS (continued)	For Premises/Operations, this state is reviewed in State Group A, which includes Hawaii, Idaho, Iowa, Kansas, Kentucky, Maine, Maryland, Minnesota, Nebraska, North Dakota, Puerto Rico, Rhode Island, South Dakota, Tennessee and Vermont.

For Products/Completed Operations, we continue to review the data on a multistate basis. This is because the data is sparser and the loss exposure is more likely to encompass multiple states. Overall and by-table indicated changes for Premises/Operations and Products/Completed Operations are calculated using state group weights.

Additionally, we use multistate (all state groups) experience for the following calculations for both Premises/Operations and Products/Completed Operations:

- unallocated loss adjustment expense, and
- severity trend.

DATA FOR INDEMNITY ANALYSIS	The limited average severity in this increased limits review is detemined using loss data reported to ISO under the Commercial Statistical Plan via prior ("pre-CGL") and current ("CGL") applicable subline codes. We also include excess and umbrella data reported under the Commercial Statistical Plan, to add greater credibility to higher layer analysis. We include additional data from the ISO Annual Call for Excess and Umbrella Policy Claims. This data enhances the credibility of our ILFs in the highest layers of loss that we evaluate.

The data is comprised of paid (settled) occurrences on occurrence coverage policies with accident dates between January 1, 2005 and December 31, 2018, and average payment dates between January 1, 2014 and December 31, 2018. The data is evaluated as of March 31, 2019.

We consider an occurrence to be settled if it has no outstanding reserve. If there are multiple payments, we consider the average payment date to be the dollar-weighted average of the dates of the individual payments.

We use "payment lag" or "lag" to measure the amount of time between the occurrence and the payments made towards the loss settlement. A lag of 1 indicates that the average payment date is in the same accident year as the occurrence. A lag of 2 indicates that the average payment date falls in the following year, and so on.

For each occurrence we determine the severity table, accident year, payment lag, indemnity amount, policy limit, and any applicable deductible or attachment point.

COMPOSITE-RATED RISKS	Insurers report composite-rated risk (CRR) data to ISO without detailed classification information. However, since a significant portion of our data is composite-rated and using it also would enhance credibility, we traditionally have employed an allocation approach to include CRR data in our calculation of increased limit factors by table.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

COMPOSITE-
RATED RISKS
(continued)

As implemented in our 2019 review Premises/Operations filing, we assign CGL CRR data to tables outright as with experience from typically mapped classes, based on empirical severity analysis performed during the 2019 review. The Premises/Operations CRR table assignments are:

Table	CRR Classifications
1	40050, 52050, 52350, 52450, 52950, 70350, 70650, 71150, 80050, 80150
2	12950, 15150, 20150, 20250, 20350, 49950, 50050, 60050, 70050, 70250, 70450, 70550, 94050, 98050, 98550
3	01050, 10050, 12150, 12250, 15050, 15250, 15350, 20050, 20450, 20550, 48050, 49050, 52250, 93050, 98750

The Products/Completed Operations CRR table assignments are:

Table	CRR Classifications
A	12250, 15150, 20250, 49950, 52350, 70250, 70350, 70650, 71150
B	10050, 12150, 12950, 15250, 20150, 20350, 48050, 50050, 52050, 52250, 52950, 70050, 70450, 80050, 98050, 98550, 98750
C	01050, 15050, 15350, 20050, 20450, 20550, 40050, 49050, 52450, 60050, 70550, 80150, 93050, 94050

We continue to allocate pre-CGL CRR data to the individual tables as in past reviews: using the accident year, payment lag and indemnity amount of a given pre-CGL CRR occurrence, we can make a Bayesian estimate of the probability it belongs in each table based on its known characteristics.

We then allocate part of each such occurrence to the various tables using this Bayesian analysis. Thus, we might consider a single $100,000 occurrence to be 1/3 of a "Table 1" occurrence, 1/2 of a "Table 2" occurrence, and 1/6 of a "Table 3" occurrence. In each case, the amount of the (fractional) occurrence would remain $100,000. We describe this process further in the Bayesian-related sections later in this document.

EXCESS AND
UMBRELLA
DATA

As stated, along with the umbrella and excess data reported to ISO under the Commercial Statistical Plan, we include additional data from the ISO Annual Call for Excess and Umbrella Policy Claims. This data enhances the credibility of our increased limit factors but does not affect the lowest layers.

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GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

EXCESS AND
UMBRELLA
DATA
(continued)

These excess and umbrella policies have attachment points that exclude smaller losses much the same way as a large deductible would. While we can reconstruct the full size of loss for those occurrences greater than the attachment point of their policy, occurrences below the attachment point are not reported.

When we construct the empirical survival distribution, we exclude occurrences where the attachment points do not meet certain criteria, to avoid bias. We describe this in more detail later in this document. Also, because excess and umbrella data is not reported in class detail, we allocate the data to each table using the same Bayesian procedure that we apply for pre-CGL CRR data.

MIXED
EXPONENTIAL
METHODOLOGY

For each table, we fit a continuous distribution to the lag-weighted occurrence-size distribution from the data. The resulting distribution produces the limited average severity component of the increased limit factor.

Using a continuous distribution (such as the mixed exponential) offers several advantages over using a purely empirical fit, including:

- calculation of limited average severity for all possible limits,
- smoothing of data,
- simplified handling of trend, and
- calculation of higher moments used in risk load.

The fitting procedure uses a mixture of exponential distributions to calculate indemnity. ISO found that the mixed exponential distribution provides a good fit to empirical data over a wide range of loss sizes, is flexible and is simple to use.

OVERVIEW OF
MIXED
EXPONENTIAL
PROCESS

The major steps in the calculation of the limited average severities of the indemnity are:

1. Trend
Trending the indemnity amount of each occurrence to reflect the expected conditions during the period when the increased limit factors are assumed to be in effect.

2. Construction of the Empirical Survival Distributions
Using the trended data to calculate the empirical survival distributions by payment lag for each table and (for Premises/Operations) state group.

3. Payment Lag Process
Combining the empirical distributions for each payment lag to produce an overall empirical survival distribution for each table and (for Premises/Operations) state group.

4. Tail of the Distribution
Smoothing the tail of the lag-weighted empirical survival distribution for each table, separately for each of the larger state group complements for Premises/Operations.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

OVERVIEW OF MIXED EXPONENTIAL PROCESS (continued)	5. <u>Combining State Group data with State Group Complement data</u> Credibility-weighting the Premises/Operations state group experience with the experience of the corresponding state group complement. 6. <u>Fitting a Mixed Exponential Distribution</u> Fitting a mixed exponential curve to the empirical survival distribution. 7. <u>Final Limited Average Severities</u> Using the fitted mixed exponential distribution to generate limited average severities.
INDEMNITY SEVERITY TREND	For a given payment lag, we expect severity to increase by the inflation rate from accident year to accident year. If annual inflation is 4.0%, an injury that resulted in a $100,000 paid claim in 2018 should cost 1.04 x $100,000 in 2019. The probability of that particular accident stays the same – only the nominal value of it changes. To bring different accident years to the same level, we project each occurrence from the average date of its accident year to December 1, 2021, one year beyond the assumed effective date of December 1, 2020. In this filing, we select an annual trend of +6.0% for Premises/Operations and 6.5% for Products/Completed Operations. We used the same Premises/Operations trend in the most recently filed 2019 review for the subline and a 5.5% trend for the last Products/Completed revision based on the 2018 review. We selected the annual severity trend factor based on the data from the underlying paid loss development triangles from this increased limits review. Trend indications are currently reviewed on a multistate basis. Manually-rated classes and A-rated classes as well as CRR classes are included in the increased limits development triangles for all significant types of loss related to General Liability. **Exhibit 11** (*Indemnity Severity Trend Selections*) provides the annual paid basic limit and total limits severity trend indications, separately for Premises/Operations and Products/Completed Operations. We also provide a measure of the goodness-of-fit statistic for each of the various multi-year trend fits.

[1] S. A. Klugman, H.H. Panjer, and G. E. Willmot, *Loss Models: From Data to Decisions*, John Wiley and Sons, New York, 2004

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MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

CONSTRUCTION
OF THE
EMPIRICAL
SURVIVAL
DISTRIBUTIONS

The construction of the empirical survival distributions is based on the Product-Limit Estimator described in <u>Loss Models: From Data to Decisions</u>[1]. First, paid (settled) occurrences are organized by accident year and payment lag and trended to the average accident date for which the loss distribution is desired.

Payment lags seven and beyond generally have similar loss sizes and are combined to increase credibility. Other lags are handled individually. We further define payment lag and explain the reasons for its use later in the explanatory materials.

Next, a survival distribution is constructed for each payment lag using discrete loss size layers. The probability that an occurrence exceeds the upper bound of a discrete layer given that it exceeds the lower bound of the layer is known as the conditional survival probability (CSP). The ground-up survival distribution is generated by multiplying the successive CSPs of the discrete layers.

This procedure allows for the easy inclusion of censored losses as well as excess, umbrella and deductible data. Two conditions must be met for an occurrence to be used in the calculation of the conditional survival probability in a particular layer of loss. These conditions are:

- The policy limit (plus attachment point or deductible) must be greater than or equal to the upper bound of the layer of loss. This avoids a downward severity bias by excluding losses that are precluded by their policy limit from penetrating the upper bound of a layer of loss.

- Only those occurrences with attachment points or deductibles less than or equal to the lower bound of the layer of loss are included. This condition is necessary to avoid an upward severity bias since loss information below the attachment point or deductible is unknown.

ILLUSTRATION

An illustration should aid in the conceptual understanding of this construction.

Assume we have twelve occurrences, all for a single payment lag. We will calculate the empirical survival probabilities for three layers using combinations of conditional survival probabilities. The three layers used are $10,000, $20,000 and $40,000 (in practice we begin with layers as small as $10, but larger layers better illustrate the handling of deductibles and policy limits). The following two pages display sample calculations for these three layers.

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Illustrative Data (Trended) for One Payment Lag

Occurrence ID Number	Occurrence Size	Attachment Point	Policy Limit	Comment
1	5,000	0	15,000	
2	5,000	0	15,000	
3	15,000	0	15,000	Censored Data
4	5,000	7,500	15,000	Deductible Data
5	5,000	0	30,000	
6	15,000	0	30,000	
7	25,000	0	30,000	
8	10,000	15,000	30,000	Excess Data
9	15,000	0	100,000	
10	25,000	0	100,000	
11	30,000	0	100,000	
12	50,000	15,000	100,000	Excess Data

Where attachment point is non-zero, we define policy limit as the maximum payment.

Conditional Survival Probabilities

	Condition:
$CSP_{e_1}(10,000 \mid 0) =$ $P(X \geq 10,000 \mid X > 0)$	$PL + AP \geq 10,000$ $AP = 0$
$CSP_{e_1}(20,000 \mid 10,000) =$ $P(X \geq 20,000 \mid X \geq 10,000)$	$PL + AP \geq 20,000$ $AP \leq 10,000$
$CSP_{e_1}(40,000 \mid 20,000)$ $P(X \geq 40,000 \mid X \geq 20,000)$	$PL + AP \geq 40,000$ $AP \leq 20,000$

where AP = attachment point, PL = policy limit, X= loss size, e_1 = empirical lag 1

Calculation of Conditional Survival Probability at $10,000

$CSP_{e_1}(10,000 \mid 0) = P(X \geq 10,000 \mid X > 0) =$ number of occurrences with:
occurrence size + AP $\geq 10,000$,
policy limit + AP $\geq 10,000$, and AP = 0
number of occurrences with:
occurrence size + AP > 0,
policy limit + AP $\geq 10,000$, and AP = 0

= 6 (occurrences 3, 6, 7, 9, 10, 11)
= 9 (occurrences 1, 2, 3, 5, 6, 7, 9, 10, 11)

Only occurrences with policy limit plus attachment point greater than or equal to 10,000 are used. Only occurrences with attachment point equal to zero are used.

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Calculation of Conditional Survival Probability at $20,000

$$\begin{aligned}
\text{CSP}_{e1}\,(20,000 \mid 10,000) = P(X \geq 20,000 \mid X \geq 10,000) = & \quad \text{number of occurrences with:} \\
& \quad \text{occurrence size} + AP \geq 20,000, \\
& \quad \underline{\text{policy limit} + AP \geq 20,000, \text{ and } AP \leq 10,000} \\
& \quad \text{number of occurrences with:} \\
& \quad \text{occurrence size} + AP \geq 10,000, \\
& \quad \text{policy limit} + AP \geq 20,000, \text{ and } AP \leq 10,000 \\
\\
& \quad = \underline{3 \text{ (occurrences 7, 10, 11)}} \\
& \quad = 6 \text{ (occurrences 4, 6, 7, 9, 10, 11)}
\end{aligned}$$

Only occurrences with policy limit plus attachment point greater than or equal to 20,000 are used. Only occurrences with attachment point less than or equal to 10,000 are used.

Calculation of Conditional Survival Probability at $40,000

$$\begin{aligned}
\text{CSP}_{e1}\,(40,000 \mid 20,000) = P(X \geq 40,000 \mid X \geq 20,000) = & \quad \text{number of occurrences with:} \\
& \quad \text{occurrence size} + AP \geq 40,000, \\
& \quad \underline{\text{policy limit} + AP \geq 40,000, \text{ and } AP \leq 20,000} \\
& \quad \text{number of occurrences with:} \\
& \quad \text{occurrence size} + AP \geq 20,000, \\
& \quad \text{policy limit} + AP \geq 40,000, \text{ and } AP \leq 20,000 \\
\\
& \quad = \underline{1 \text{ (occurrence 12)}} \\
& \quad = 4 \text{ (occurrences 8, 10, 11, 12)}
\end{aligned}$$

Only occurrences with policy limit plus attachment point greater than or equal to 40,000 are used. Only occurrences with attachment point less than or equal to 20,000 are used.

Calculation of Empirical Survival Distribution

The CSPs generate the following empirical survival probabilities:

$$\begin{aligned}
S_{e1}\,(10,000) = P(X \geq 10,000) = \text{CSP}_{e1}\,(10,000 \mid 0) &= P(X \geq 10,000 \mid X > 0) \\
&= 6/9
\end{aligned}$$

$$\begin{aligned}
S_{e1}\,(20,000) = P(X \geq 20,000) = \text{CSP}_{e1}\,(10,000 \mid 0) &* \text{CSP}_{e1}\,(20,000 \mid 10,000) \\
&= P(X \geq 10,000 \mid X > 0) * P(X \geq 20,000 \mid X \geq 10,000) \\
&= 6/9 * 3/6 = 1/3
\end{aligned}$$

$$\begin{aligned}
S_{e1}\,(40,000) = P(X \geq 40,000) = \text{CSP}_{e1}\,(10,000 \mid 0) &* \text{CSP}_{e1}\,(20,000 \mid 10,000) * \text{CSP}_{e1}\,(40,000 \mid 20,000) \\
&= P(X \geq 10,000 \mid X > 0) * P(X \geq 20,000 \mid X \geq 10,000) * P(X \geq 40,000 \mid X \geq 20,000) \\
&= 6/9 * 3/6 * 1/4 = 1/12
\end{aligned}$$

In practice, to generate the trended empirical loss distribution for each lag, we use sixty-eight discrete loss size layers to allow for a refined selection of the tail-smoothing parameters, discussed in the Tail of the Distribution section.

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SUPPORTING MATERIAL

PAYMENT LAG
PROCESS

Development for paid (settled) data has two aspects. One aspect is that many occurrences are paid within a short period of time after the accident, with a small number taking longer – sometimes much longer – to be paid. The second aspect is the tendency of larger occurrences to take longer to be paid.

To properly reflect an accident year at ultimate, we must include each payment lag with its appropriate weight. We do this by:

- accounting for the rate of payment using the probability-of-payment-lag process, and
- constructing severity distributions by payment lag.

A "lag weighting" procedure then combines the by-lag empirical loss distributions to generate an overall distribution. This procedure implicitly accounts for development as all possible payment lags are represented and given weight at the prospective average accident date. We refer to the distribution of the overall survival probabilities by size of loss as the "empirical survival distribution function (SDF)".

PAYMENT LAG

Payment lag is the length of time between when an accident occurs and the date when the associated indemnity is paid. In the mixed exponential approach, the payment date is the dollar-weighted average of the dates of the indemnity payments. ISO calculates payment lag based on the year in which an accident occurs and the year in which the occurrence is paid:

$$\text{Payment Lag} = (\text{Payment Year - Accident Year}) + 1$$

Payment lag can vary considerably by line of business and by type of claim. While most property claims are paid quickly, liability claims generally take longer to settle, particularly those involving protracted litigation. Among liability claims, there is considerable variation in payment lag.

DIFFERENCES
IN LOSS SIZES BY
PAYMENT LAG

Generally, occurrences with longer payment lags involve higher loss sizes. For example, the average loss size for occurrences paid in lag 4 will tend to be considerably higher than the average loss size for those paid in lag 1.

The Mixed Exponential Methodology reflects this by fitting (the continuous mixed exponential distribution) to a lag-weighted empirical survival distribution. We do not directly fit to the severity distributions of individual lags.

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PAYMENT LAG
DISTRIBUTION

The payment lag distribution is detemined to avoid distortions that may otherwise result from:

- differing exposure amounts by accident year,
- an asymmetrical experience period with fewer than five accident years for lags eleven through fourteen, and
- a finite number of lags (no data for lags beyond fourteen).

The lag-weighting procedure implicitly accounts for ultimate development, as all possible payment lags are represented and given weight at the prospective average accident date.

The payment lag process uses three parameters (R1, R2 and R3) to generate the weights given to the severity distribution associated with each payment lag. The parameters can be represented as follows:

$$R1= \frac{\text{expected percentage of occurrences paid in lag 2}}{\text{expected percentage of occurrences paid in lag 1}}$$

$$R2= \frac{\text{expected percentage of occurrences paid in lag 3}}{\text{expected percentage of occurrences paid in lag 2}}$$

$$R3= \frac{\text{expected percentage of occurrences paid in lag (n+1)}}{\text{expected percentage of occurrences paid in lag (n)}} \text{, for all } n \geq 3$$

The weights for each lag are then determined as follows:

lag 1 weight = $1 / k$, where $k = \{1 + R1 + [R1 \cdot R2] / [1-R3]\}$
lag 2 weight = $R1 / k$
lag 3 weight = $R1 \cdot R2 / k$
lag 4 weight = $R1 \cdot R2 \cdot R3 / k$
lag 5 weight = $R1 \cdot R2 \cdot R3^2 / k$
lag 6 weight = $R1 \cdot R2 \cdot R3^3 / k$
lag 7 weight = $R1 \cdot R2 \cdot [R3^4 / (1-R3)] / k$,

Note that the lag 7 weight includes lag 7 and all subsequent lags.

The lag weights represent the percentage of ground-up occurrences in each lag. Therefore, occurrences from deductible, umbrella or excess policies with non-zero attachment points are not included.

METHOD OF
ESTIMATION:
PAYMENT LAG
PARAMETERS

For stability, we calculate the payment lag parameters (R1, R2 and R3) via maximum likelihood. Except for pre-CGL CRR data, an occurrence with accident year *a* and payment lag *l* is reflected in the likelihood function by the probability that the lag equals *l* given that the accident year equals *a*. This conditional probability can be easily expressed in terms of the payment lag parameters.

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METHOD OF ESTIMATION: PAYMENT LAG PARAMETERS (continued)	For a pre-CGL CRR occurrence, the probability that the loss comes from a given table is computed by the procedure described later in the Bayesian-related sections. Each pre-CGL CRR occurrence generates several probabilities, one for each table. These probabilities are treated as fractional occurrences in the likelihood function.

Exhibits 12 and 13 *(Payment Lag Parameters and Lag Weights)* show the resulting values of these parameters.

TAIL OF THE DISTRIBUTION

For the higher limits of liability, experience may be sparse in the tail of the distribution. To account for this, and to limit random fluctuations in the higher limits between consecutive reviews, we implicitly smooth the tails of the empirical state group distributions by smoothing the tails of the larger state group complement distributions (referred to as A', B' and C'). We select truncation points above which the state group complements' empirical survival distribution functions can be relatively less stable. The truncation points in this filing are:

Line/State Group	Table 1/A	Table 2/B	Table 3/C
PremOps A'	2,250,000	4,000,000	1,200,000
Products CW	2,000,000	2,750,000	1,200,000

Then we select a parametric curve family that successfully projects the behavior of the empirical distributions in the layers around the truncation point. During this process, we examine which curve parameters would minimize the overall severity difference between the empirical and smoothed distributions. The resulting curve is used to extrapolate the empirical distributions above the truncation point. The state group complements' empirical distributions below the truncation point are unaffected by this procedure.

This procedure smooths the tail of the state group complements' empirical distributions by extending relationships from the highest credible limits (those limits around the truncation point) to those limits above the truncation point. For each state group, we use the shape of the appropriate extrapolated larger state group complement distribution to extend the credibility-weighted state group distribution above the truncation point. Essentially, this smooths the tail of the distribution for each state group and table. We then fit a mixed exponential distribution to the resulting SDF for each increased limits table.

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SUPPORTING MATERIAL

COMBINING
STATE GROUP
DATA WITH
STATE GROUP
COMPLEMENT
DATA

For Premises/Operations, we construct the empirical survival distribution by state or state group for each table. State or state group conditional survival probabilities (CSPs) are weighted with the larger, more representative state group complements' CSPs at each layer. Grouping states or state groups with larger state groupings of similar experience produces more consistent and intuitive complements of credibility. To generate the complements of credibility, we grouped each of the individually reviewed states with either State Group A, B or C, creating three larger state group complements. The sum of these larger state group complements by definition includes all multistate data.

The definitions of the state group complements (referred to as A', B' and C') are as follows:

- A': State Group A, NC, OH, VA, WI
- B': State Group B, FL, GA, IN, MA, MI, NJ, PA, TX
- C': State Group C, CA, IL, NY

The weight assigned to each state group's CSP in each layer is an increasing function of the number of occurrences for that state group in that layer. Thus, greater weight is given to state group experience in lower layers where greater volume contributes to stability for experience by state group.

The formula used is:

Weighted CSP_i = (Z_i) x State Group CSP_i + (1 - Z_i) x State Group Complement CSP_i, where:

- $Z_i = N_i / (N_i + K)$,
- i is the ith loss size layer, and
- N_i is the number of occurrences that can be used to evaluate CSP_i for the state group, and K=300 for state group complement A', 200 for state group complement B', and 100 for state group complement C'.

The values of K were selected based on an evaluation of the total variability of CSPs by layer compared to the variability across all state groups within the state group complement. This is an application of Bühlmann-Straub credibility procedures to CSPs. Bühlmann-Straub credibility procedures are described in a number of actuarial texts, including Loss Models: From Data to Decisions[3].

As stated in the Tail of the Distribution section, for the highest layers of loss, we first extrapolate the CSPs for the three larger state group complements A', B' and C' through the tail smoothing process.

Please note that because Products/Completed Operations increased limit factors are reviewed on a multistate basis, the credibility procedure is not applicable.

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[3] S. A. Klugman, H.H. Panjer, and G. E. Willmot, *Loss Models: From Data to Decisions*, John Wiley and Sons, New York, 2004

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FITTING A MIXED EXPONENTIAL DISTRIBUTION

ISO generates a best-fitting mixed exponential distribution to approximate the lag-weighted empirical survival distribution for each table. The lag-weighted SDFs reflect smoothing and, if applicable, credibility weighting. The resulting mixed exponential distribution produces the limited average severity component of the increased limit factor.

THE SIMPLE EXPONENTIAL DISTRIBUTION

To understand the mixed exponential distribution, first consider the simple exponential distribution. The simple exponential is a one-parameter distribution. The formulas for the survival distribution function (SDF(x)) and the limited average severity (LAS) at a given policy limit (PL) for an exponential distribution with mean parameter μ are given by:

$$SDF(x) = e^{-\left(\frac{x}{\mu}\right)} = 1 - CDF(x)$$

$$LAS(PL) = \mu\left[1 - e^{-\left(\frac{PL}{\mu}\right)}\right]$$

THE MIXED EXPONENTIAL DISTRIBUTION

The mixed exponential distribution is a weighted average of exponential distributions. Each exponential distribution has two parameters, a mean μ_i and a weight w_i. Note that the SDF at zero is unity, and the weights sum to 1.000000.

The formulas for the survival distribution function and limited average severity for the mixed exponential distribution are the weighted averages of the respective single exponential formulas:

$$SDF(x) = \sum_i \left[w_i e^{-\left(\frac{x}{\mu_i}\right)}\right]$$

$$LAS(PL) = \sum_i w_i \mu_i \left[1 - e^{-\left(\frac{PL}{\mu_i}\right)}\right]$$

ISO found that the mixed exponential distribution is flexible and simple to use and provides a good fit to empirical data over a wide range of loss sizes. In fact, any distribution whose probability density function (pdf) has alternating derivatives:

$$pdf(x) > 0,$$
$$d\ pdf(x)/dx < 0,$$
$$d^2\ pdf(x)/dx^2 > 0,$$
$$d^3\ pdf(x)/dx^3 < 0, \quad \text{etc., for all } x > 0,$$

can be constructed as a mixture of exponentials with positive means and weights. Such distributions (including the mixed Pareto, if it has a finite mean) can be thought of as special cases of the mixed exponential distribution.

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GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

THE MIXED
EXPONENTIAL
DISTRIBUTION
SEVERITY
PARAMETERS

ISO estimates the mixed exponential distribution parameters using minimum distance estimation. We compare the fitted SDF to the empirical SDF at each of the discrete loss size layers resulting from the construction.

We seek a mixed exponential distribution that minimizes the weighted sum of the square of the differences of these survival probabilities (fitted minus empirical) taken at each loss size layer. This procedure is known as the "minimum distance" method.

The number of exponential distributions needed to produce an optimal fit to the empirical SDF may vary by table and can be as large as necessary.

For General Liability, we allow means up to $100 million, to follow the smoothed empirical distribution in layers above $10 million more closely. Allowing means up to $100 million tends to increase the number of means (and weights) for the fitted distribution in a given table, while having minimal effect on limits up to $10 million, the highest limit for which we publish increased limit factor information.

Exhibit 14 (*Parameters for Mixed Exponential Distributions)* displays the mixed exponential parameters (means and weights) for each increased limits table.

MAY NOT BE
APPLICABLE FOR
ALL POLICY
LIMITS

ISO's standard increased limits tables (shown in **Exhibits 5** through **10**) provide increased limit factors up to the $10,000,000 per occurrence policy limit. **We encourage the use of supplemental sources of information for analysis of layers above $10,000,000.**

FINAL LIMITED
AVERAGE
SEVERITIES

ISO calculates the limited average severities using the fitted mixed exponential distributions for each table. The *Mixed Exponential Distribution* section gives the formula for the limited average severity of a mixed exponential distribution. **Exhibit 14** (*Parameters for Mixed Exponential Distributions)* shows the individual by-table severity parameters used in this formula for each increased limits table.

Exhibits 15 and 16 (*Comparison of Limited Average Severities)* compares the fitted limited average severities to the empirical limited average severities. The empirical limited average severities are constructed in a manner analogous to the empirical survival distributions. The same conditions and assumptions are used in combination with actual trended loss amounts in each layer.

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BAYESIAN
ANALYSIS

As stated, we utilize a Bayesian approach to allocate pre-CGL CRR, excess and umbrella occurrences to each increased limits table. For each payment lag, the Bayesian analysis is as follows:

$$P(\text{Table} \mid \text{Indemnity}) = \frac{P(\text{Indemnity} \mid \text{Table}) \times P(\text{Table})}{\sum P(\text{Indemnity} \mid \text{Table}) \times P(\text{Table})}$$

The sum in the denominator is over all tables.

Here P(Table | Indemnity) is the conditional probability (within the payment lag) that an occurrence comes from the specified table, given the indemnity amount.

P(Table) is the marginal probability (within the payment lag) that an occurrence comes from the specified table.

Clearly, the table probabilities sum to one:

$$\sum P(\text{Table} \mid \text{Indemnity}) = 1;$$

that is, 100% of each occurrence is allocated.

We estimate P(Table) as the ratio of two sums:

$$P(\text{Table}) = \frac{\text{\# of occurrences with known table in this table}}{\text{\# of occurrences with known table in all tables}}$$

Here we restrict both the numerator and denominator to the payment lag under consideration.

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BAYESIAN ALLOCATION AND EMPIRICAL SURVIVAL DISTRIBUTIONS

For an occurrence with unknown table not censored by policy limits, we use:

$$P(\text{Indemnity} \mid \text{Table}) = f(\text{Indemnity Layer}),$$

where f(Indemnity Layer) is the empirical probability of an occurrence being in the indemnity layer. This empirical probability is the difference of the empirical SDF (for the table-payment lag combination) between the top and the bottom of the layer.

For an occurrence with unknown table censored by policy limits, we use:

$$P(\text{Indemnity} \mid \text{Table}) = SDF(\text{Indemnity Layer}),$$

where SDF(Indemnity Layer) is the empirical SDF evaluated at the bottom of a layer, for the table-payment lag combination.

ALLOCATED DATA IN PROBABILITY-OF-PAYMENT-LAG PROCESS

We allocate pre-CGL CRR data to tables within an accident year and payment lag using the Bayesian analysis described in previous section. We then have revised occurrence counts by accident year, payment lag, and table. These counts include fractional occurrences from the pre-CGL CRR data. These counts are the raw data for our probability-of-payment-lag process.

We do not include excess and umbrella data, or deductible data, in the probability-of-payment-lag process. This avoids bias from not including unreported occurrences smaller than the policy attachment points or deductibles.

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ALLOCATED
LOSS
ADJUSTMENT
EXPENSE

The standard liability policy contains a policy limit which represents the maximum amount an insurer will pay for any loss for which the insured is liable. However, the limit does not apply to the loss adjustment expenses. For this reason, we estimate ALAE per occurrence as a single amount that does not vary by policy limit.

For each table, we estimate allocated loss adjustment expense (ALAE) per occurrence as the product of two numbers. The first number is the ratio of paid ALAE to paid total limits (all limits combined) indemnity. The second number is the average (across all policy limits) limited average severity calculated from the mixed exponential approach.

To calculate the ALAE per occurrence, we first calculate the ratio of dollars of ALAE to dollars of total limits indemnity for the seven next-to-latest available accident years (the latest accident year is excluded from the average because its development tends to be less stable). We develop these ratios to ultimate maturity.

To further enhance stability, we use a best 5-of-7 criterion and eliminate the lowest and highest paid ratios. We then average the best 5-of-7 paid ratios to determine the overall ALAE to total limits indemnity ratio for each table.

The fitted total limits average severity for each table is a weighted average of the limited average severities at the different policy limits. The weights used are occurrences from the second, third and fourth latest accident years.

For each table, the multi-year average ALAE to total limits indemnity ratio is then multiplied by the final fitted total limits average severity to calculate the ALAE per occurrence provision for use in computing increased limit factors. The total limits average severity reflects trend to the average prospective accident date. This effectively contemplates trend in ALAE in a more stable manner than relying on a separate trend analysis of ALAE.

Exhibit 17 and 18 *(Calculation of Allocated Loss Adjustment Expense per Occurrence)* show the calculation of the allocated loss adjustment expense component for Premises/Operations Liability and Products/Completed Operations Liability, respectively.

UNALLOCATED
LOSS
ADJUSTMENT
EXPENSE

We calculate the unallocated loss adjustment expense at each limit of liability as a percentage of the sum of the limited average severity and the ALAE at that liability limit. For this filing, we select the ULAE load of 8.5% based on a five-year average of multistate financial data reported to ISO.

Exhibit 19 (*Development of Unallocated Loss Adjustment Expense Factor*) shows the derivation of this factor.

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SUPPORTING MATERIAL

RISK LOAD

Our increased limits methodology incorporates a procedure to reflect the relatively higher risk or variation in experience associated with higher limit policies. The approach that we use, the Competitive Market Equilibrium Risk Load Model[1], assumes that the insurance marketplace is competitive and efficient. In a competitive marketplace, individual insurers cannot influence the marketplace price. While individual insurers cannot influence the risk associated with a given policy limit, they will attempt to maximize their expected net revenue by choosing which lines and policy limits to write. This assumption is consistent with rational economic behavior and is reinforced by solvency regulation.

In an efficient marketplace, the supply of insurance matches the demand. ISO uses the distribution of basic limit losses by policy limit to represent the market demand for insurance at each limit. The method determines a set of risk loads that match supply and demand at each policy limit.

The variability of losses is caused by process risk and parameter risk:

- Process risk reflects the inherent uncertainty of the insurance process. Even if one could estimate expected losses exactly, actual losses will almost certainly differ from the expected. We derive the process risk component from the parameters of the indemnity severity distribution.

- Parameter risk reflects the risk of not estimating expected losses accurately. The derivation of the parameter risk component is based on the historical variation of losses.

These two risk elements combined comprise the total risk load at each policy limit.

ISO's risk load formulas use a parameter, lambda (λ), which governs the total amount of risk load over all policy limits for (non-professional) commercial liability tables. We determine lambda so that the ratio of the average indicated increased limit factor with risk load to the average indicated increased limit factor without risk load is equal to 1.06 for all General and Commercial Automobile Liability tables combined. For this state group, this ratio is 1.037 and 1.118 for Premises/Operations and Products/Completed Operations Liability, respectively.

Exhibit 20 *(Risk Load Parameters)* shows parameters used in the calculation of risk load.

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[1] G. G. Meyers, *Competitive Market Equilibrium Risk Load Model for Increased Limits Ratemaking*, Proceedings of the Casualty Actuarial Society, Volume LXXVIII, 1991

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RISK LOAD FORMULAS AND PARAMETERS

The following are the formulas underlying ISO's risk load approach.

The risk load formulas incorporate parameter risk using a parameter transformation. In the following formulas, we use the notation AVSEV(PL,α) and SECM(PL,α) to represent the limited moments of a transformed loss size distribution. The distribution is transformed by multiplying all occurrences by the constant "α". AVSEV represents the limited average severity and SECM represents the limited second moment of the transformed distribution. The following formulas represent an approximation of the effect of parameter risk on the severity distribution:

$$AVSEV(PL, \alpha) = \alpha \times LAS(PL/\alpha)$$

$$SECM(PL, \alpha) = \alpha^2 \times SECM(PL/\alpha)$$

The formulas for the LAS(PL) and SECM(PL) of a mixed exponential are as follows:

$$LAS(PL) = \sum_i w_i\,\mu_i\,[\,1 - \exp(-PL/\mu_i)\,]$$

$$SECM(PL) = \sum_i 2\,w_i\,\mu_i^2\left[1 - \left(1 + \frac{PL}{\mu_i}\right)\exp\left(-\frac{PL}{\mu_i}\right)\right]$$

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

RISK LOAD FORMULAS AND PARAMETERS

(1) *Total Risk Load*
    The vector of risk load amounts for a particular increased limits table, R, is:

$$\mathbf{R} = \lambda[\mathbf{U} + 2(\mathbf{V}^{a\cdot}\overline{\mathbf{n}}^a + \mathbf{V}^{c\cdot}\overline{\mathbf{n}}^c)]$$

where

λ = the factor which reflects the overall impact of risk load over General and Commercial Automobile Liability. ISO selected this parameter so that the average increased limit factor with risk load divided by the average increased limit factor without risk load equals 1.06.

$\mathbf{U}$ = the vector of risk elements corresponding to process risk. Its jth component is u_j, corresponding to the jth policy limit.

$\mathbf{V}^a$ = the matrix describing severity parameter risk.

$\mathbf{V}^c$ = the matrix describing frequency parameter risk.

Premises/Operations Liability (state group):

$\overline{\mathbf{n}}^a$ = the vector of the expected number of occurrences per insurer in the particular increased limits table (within its state group). The jth component of $\overline{\mathbf{n}}^a$ is computed as follows: the basic limit loss weight for that policy limit in the increased limits table (as a percentage) is multiplied by nbara, the expected number of occurrences per insurer per state group, in the particular increased limits table, for all limits combined.

Products/Completed Operations Liability (multistate):

$\overline{\mathbf{n}}^a$ = the vector of the multistate expected number of occurrences per insurer in the particular increased limits table. The jth component of $\overline{\mathbf{n}}^a$ is computed as follows: the basic limit loss weight for that policy limit in the increased limits table (as a percentage) is multiplied by nbara, the multistate expected number of occurrences per insurer, in the particular increased limits table, for all limits combined.

Premises/Operations Liability (state group):

$\overline{\mathbf{n}}^c$ = the vector of the expected average number of occurrences per insurer per state for all tables combined. The jth component of $\overline{\mathbf{n}}^c$ is computed as follows: the basic limit loss weight for that policy limit in the increased limits table (as a percentage) is multiplied by the Premises/Operations nbarc, which is the expected average number of occurrences per insurer per state for all tables and limits combined.

Products/Completed Operations Liability (multistate):

$\overline{\mathbf{n}}^c$ = the vector of the multistate expected average number of occurrences per insurer for all tables combined. The jth component of $\overline{\mathbf{n}}^c$ is computed as follows: the basic limit loss weight for that policy limit in the increased limits table (as a percentage) is multiplied by the Products/Completed Operations nbarc, which is the expected average number of occurrences per insurer for all tables and limits combined.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

<u>SUPPORTING MATERIAL</u>

RISK LOAD FORMULAS AND PARAMETERS

(2) *Process Risk Load*

The process risk component of the risk load is given by $\lambda \times \mathbf{U}$. The component u_j, associated with the jth limit, is:

$$u_j = E_\alpha[SECM(PL_j,\alpha)] + d \cdot E_\alpha[AVSEV(PL_j,\alpha)^2]$$

where:

α = random variable with mean 1 and variance a. α represents severity parameter risk.
a = .001 (based on a special ISO study).
$1 + d$ = variance-to-mean ratio for occurrence count distribution, contingent on parameters being known. (In other words, if there were no frequency parameter risk, the variance-to-mean ratio would be 1+d.)
E_α = expected value across all values of the parameter α.

Let: $\qquad \alpha_1 = 1 - \sqrt{3a} ; \quad \alpha_2 = 1; \quad \alpha_3 = 1 + \sqrt{3a} ;$

The Gauss-Hermite approximation[2] provides a discrete approximation for the expected value of a function $G(\alpha)$ across all values of the normally distributed random variable α:

$$E_\alpha[G(\alpha)] = (1/6)G(\alpha_1) + (2/3)G(\alpha_2) + (1/6)G(\alpha_3)$$

for any function $G(\alpha)$.

(3) *Parameter Risk Load*

The parameter risk component of the risk load is given by $\lambda \times 2 \times (\mathbf{V}^c \cdot \overline{\mathbf{n}}^c + \mathbf{V}^a \cdot \overline{\mathbf{n}}^a)$.

<u>Evaluation of $\mathbf{V}^c$</u>

v^c_{ij} = element of $\mathbf{V}^c$ corresponding to i^{th} limit, j^{th} limit

= $c \times E_\alpha[AVSEV(PL_i,\alpha) \cdot AVSEV(PL_j,\alpha)]$

c = parameter quantifying frequency parameter risk ("c" does for frequency what "a" does for severity). Values vary by line based on a special ISO study.

<u>Evaluation of $\mathbf{V}^a$</u>

v^a_{ij} = element of $\mathbf{V}^a$ corresponding to i^{th} limit, j^{th} limit

= $E_\alpha[AVSEV(PL_i,\alpha) \cdot AVSEV(PL_j,\alpha)] - E_\alpha[AVSEV(PL_i,\alpha)] \cdot E_\alpha[AVSEV(PL_j,\alpha)]$

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[2]A. Ralston, *A First Course in Numerical Analysis*, McGraw-Hill, 1965

INSURANCE SERVICES OFFICE, INC.

<div align="center">
MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL
</div>

SUMMARY
In summary, we calculate limited average severities from a continuous distribution of occurrence size. In this methodology, we fit mixed exponential distributions to trended lag-weighted occurrence-size distributions.

We calculate allocated loss adjustment expense per occurrence that does not vary by policy limit. We calculate unallocated loss adjustment expense by limit as a percentage of the sum of the limited average severity and allocated loss adjustment expense. We calculate risk load amounts reflecting process and parameter risk.

Finally, we calculate the sum of the limited average severity, allocated loss adjustment expense, unallocated loss adjustment expense and risk load. The ratio of this sum at the limit desired to this sum at the basic limit is the per occurrence increased limit factor.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUMMARY OF INCREASED LIMIT FACTOR CHANGES

PREMISES/OPERATIONS LIABILITY
STATE GROUP A

TABLE 1

Policy Limit ($,000)	State Group Basic Limit Loss Weight	Current Increased Limit Factor	Indicated Increased Limit Factor	Indicated Percent Change	Selected Increased Limit Factor	Selected Percent Change
100	0.0013	1.00	1.00	0.0%	1.00	0.0%
200	0.0000	1.13	1.14	0.9%	1.14	0.9%
250	0.0000	1.16	1.18	1.7%	1.18	1.7%
300	0.0035	1.19	1.21	1.7%	1.21	1.7%
500	0.0063	1.26	1.28	1.6%	1.28	1.6%
750	0.0006	1.31	1.34	2.3%	1.34	2.3%
1,000	0.9039	1.34	1.37	2.2%	1.37	2.2%
1,500	0.0041	1.39	1.42	2.2%	1.42	2.2%
2,000	0.0717	1.42	1.45	2.1%	1.45	2.1%
3,000	0.0005	1.47	1.50	2.0%	1.50	2.0%
5,000	0.0029	1.55	1.57	1.3%	1.57	1.3%
10,000	0.0052	1.67	1.68	0.6%	1.68	0.6%
TOTAL	1.0000	1.347	1.377	2.2%	1.377	2.2%

TABLE 2

Policy Limit ($,000)	State Group Basic Limit Loss Weight	Current Increased Limit Factor	Indicated Increased Limit Factor	Indicated Percent Change	Selected Increased Limit Factor	Selected Percent Change
100	0.0025	1.00	1.00	0.0%	1.00	0.0%
200	0.0001	1.15	1.16	0.9%	1.16	0.9%
250	0.0000	1.20	1.20	0.0%	1.20	0.0%
300	0.0013	1.24	1.24	0.0%	1.24	0.0%
500	0.0103	1.35	1.36	0.7%	1.36	0.7%
750	0.0015	1.44	1.45	0.7%	1.45	0.7%
1,000	0.9276	1.51	1.52	0.7%	1.52	0.7%
1,500	0.0015	1.60	1.61	0.6%	1.61	0.6%
2,000	0.0505	1.66	1.68	1.2%	1.68	1.2%
3,000	0.0008	1.76	1.78	1.1%	1.78	1.1%
5,000	0.0019	1.91	1.92	0.5%	1.92	0.5%
10,000	0.0020	2.14	2.15	0.5%	2.15	0.5%
TOTAL	1.0000	1.517	1.527	0.7%	1.527	0.7%

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUMMARY OF INCREASED LIMIT FACTOR CHANGES

PREMISES/OPERATIONS LIABILITY
STATE GROUP A

TABLE 3

Policy Limit ($,000)	State Group Basic Limit Loss Weight	Current Increased Limit Factor	Indicated Increased Limit Factor	Indicated Percent Change	Selected Increased Limit Factor	Selected Percent Change
100	0.0002	1.00	1.00	0.0%	1.00	0.0%
200	0.0000	1.20	1.20	0.0%	1.20	0.0%
250	0.0027	1.27	1.28	0.8%	1.28	0.8%
300	0.0004	1.32	1.34	1.5%	1.34	1.5%
500	0.0191	1.50	1.52	1.3%	1.52	1.3%
750	0.0008	1.65	1.68	1.8%	1.68	1.8%
1,000	0.9343	1.77	1.80	1.7%	1.80	1.7%
1,500	0.0017	1.95	1.98	1.5%	1.98	1.5%
2,000	0.0383	2.07	2.10	1.4%	2.10	1.4%
3,000	0.0011	2.25	2.28	1.3%	2.28	1.3%
5,000	0.0007	2.48	2.52	1.6%	2.52	1.6%
10,000	0.0007	2.87	2.89	0.7%	2.89	0.7%
TOTAL	1.0000	1.777	1.806	1.6%	1.806	1.6%

SUMMARY

Table	Basic Limit Loss Weight	Current Average Increased Limit Factor	Indicated Average Increased Limit Factor	Indicated Percent Change	Selected Increased Limit Factor	Selected Percent Change
Table 1	0.2761	1.347	1.377	2.2%	1.377	2.2%
Table 2	0.5515	1.517	1.527	0.7%	1.527	0.7%
Table 3	0.1724	1.777	1.806	1.6%	1.806	1.6%
TOTAL	1.0000	1.515	1.534	1.3%	1.534	1.3%

Explanation for this exhibit is provided on page A-1.

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INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUMMARY OF INCREASED LIMIT FACTOR CHANGES

PRODUCTS/COMPLETED OPERATIONS LIABILITY
MULTISTATE

TABLE A

Policy Limit ($,000)	State Group Basic Limit Loss Weight	Current Increased Limit Factor	Indicated Increased Limit Factor	Indicated Percent Change	Selected Increased Limit Factor	Selected Percent Change
100	0.0004	1.00	1.00	0.0%	1.00	0.0%
200	0.0000	1.14	1.15	0.9%	1.15	0.9%
250	0.0000	1.18	1.19	0.8%	1.19	0.8%
300	0.0020	1.22	1.23	0.8%	1.23	0.8%
500	0.0090	1.33	1.33	0.0%	1.33	0.0%
750	0.0000	1.42	1.41	-0.7%	1.41	-0.7%
1,000	0.9410	1.48	1.47	-0.7%	1.47	-0.7%
1,500	0.0000	1.58	1.55	-1.9%	1.55	-1.9%
2,000	0.0336	1.64	1.60	-2.4%	1.60	-2.4%
3,000	0.0003	1.74	1.68	-3.4%	1.68	-3.4%
5,000	0.0009	1.88	1.79	-4.8%	1.79	-4.8%
10,000	0.0128	2.11	1.97	-6.6%	1.97	-6.6%
TOTAL	1.0000	1.492	1.479	-0.9%	1.479	-0.9%

TABLE B

Policy Limit ($,000)	State Group Basic Limit Loss Weight	Current Increased Limit Factor	Indicated Increased Limit Factor	Indicated Percent Change	Selected Increased Limit Factor	Selected Percent Change
100	0.0004	1.00	1.00	0.0%	1.00	0.0%
200	0.0000	1.17	1.18	0.9%	1.18	0.9%
250	0.0001	1.23	1.24	0.8%	1.24	0.8%
300	0.0016	1.28	1.29	0.8%	1.29	0.8%
500	0.0182	1.41	1.43	1.4%	1.43	1.4%
750	0.0000	1.53	1.55	1.3%	1.55	1.3%
1,000	0.9408	1.61	1.64	1.9%	1.64	1.9%
1,500	0.0000	1.74	1.77	1.7%	1.77	1.7%
2,000	0.0287	1.83	1.86	1.6%	1.86	1.6%
3,000	0.0004	1.97	2.00	1.5%	2.00	1.5%
5,000	0.0017	2.15	2.17	0.9%	2.17	0.9%
10,000	0.0081	2.42	2.45	1.2%	2.45	1.2%
TOTAL	1.0000	1.619	1.649	1.9%	1.649	1.9%

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUMMARY OF INCREASED LIMIT FACTOR CHANGES

PRODUCTS/COMPLETED OPERATIONS LIABILITY
MULTISTATE

TABLE C

Policy Limit ($,000)	State Group Basic Limit Loss Weight	Current Increased Limit Factor	Indicated Increased Limit Factor	Indicated Percent Change	Selected Increased Limit Factor	Selected Percent Change
100	0.0003	1.00	1.00	0.0%	1.00	0.0%
200	0.0000	1.20	1.24	3.3%	1.24	3.3%
250	0.0000	1.28	1.33	3.9%	1.33	3.9%
300	0.0002	1.35	1.42	5.2%	1.42	5.2%
500	0.0120	1.54	1.68	9.1%	1.68	9.1%
750	0.0000	1.72	1.93	12.2%	1.93	12.2%
1,000	0.9556	1.85	2.12	14.6%	2.12	14.6%
1,500	0.0000	2.04	2.41	18.1%	2.41	18.1%
2,000	0.0283	2.18	2.61	19.7%	2.61	19.7%
3,000	0.0005	2.37	2.90	22.4%	2.90	22.4%
5,000	0.0010	2.61	3.27	25.3%	3.27	25.3%
10,000	0.0021	2.98	3.83	28.5%	3.83	28.5%
TOTAL	1.0000	1.859	2.133	14.7%	2.133	14.7%

SUMMARY

Table	Basic Limit Loss Weight	Current Average Increased Limit Factor	Indicated Average Increased Limit Factor	Indicated Percent Change	Selected Increased Limit Factor	Selected Percent Change
Table A	0.1415	1.492	1.479	-0.9%	1.479	-0.9%
Table B	0.5475	1.619	1.649	1.9%	1.649	1.9%
Table C	0.3110	1.859	2.133	14.7%	2.133	14.7%
TOTAL	1.0000	1.676	1.775	5.9%	1.775	5.9%

GENERAL LIABILITY COMBINED

Table	Basic Limit Loss Weight	Current Average Increased Limit Factor	Indicated Average Increased Limit Factor	Indicated Percent Change	Selected Increased Limit Factor	Selected Percent Change
Prem/Ops	0.7317	1.515	1.534	1.3%	1.534	1.3%
Products	0.2683	1.676	1.775	5.9%	1.775	5.9%
TOTAL	1.0000	1.558	1.599	2.6%	1.599	2.6%

Explanation for this exhibit is provided on page A-1.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

COMPARISON OF CURRENT AND REVISED
OCCURRENCE/AGGREGATE INCREASED LIMIT FACTORS

PREMISES/OPERATIONS LIABILITY
STATE GROUP A

		(1)	(2)	(3)
Table	Policy Limit (Occurrence/ Aggregate) ($,000)	Current Factor (100/200 Basic Limit)	Revised Factor (100/200 Basic Limit)	[(2)-(1)]/(1) Percent Change
1	300/600	1.18	1.21	2.5%
	500/1,000	1.25	1.28	2.4%
	1,000/2,000	1.33	1.36	2.3%
	2,000/4,000	1.42	1.45	2.1%
2	300/600	1.24	1.25	0.8%
	500/1,000	1.35	1.36	0.7%
	1,000/2,000	1.50	1.51	0.7%
	2,000/4,000	1.67	1.68	0.6%
3	300/600	1.33	1.35	1.5%
	500/1,000	1.51	1.53	1.3%
	1,000/2,000	1.77	1.81	2.3%
	2,000/4,000	2.09	2.13	1.9%

Explanation for this exhibit is provided on page A-1.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

COMPARISON OF CURRENT AND REVISED
OCCURRENCE/AGGREGATE INCREASED LIMIT FACTORS

PRODUCTS/COMPLETED OPERATIONS LIABILITY
COUNTRYWIDE

Table	Policy Limit (Occurrence/ Aggregate) ($,000)	(1) Current Factor (100/200 Basic Limit)	(2) Revised Factor (100/200 Basic Limit)	(3) [(2)-(1)]/(1) Percent Change
A	300/600	1.21	1.23	1.7%
	500/1,000	1.32	1.33	0.8%
	1,000/2,000	1.46	1.47	0.7%
	2,000/4,000	1.63	1.61	-1.2%
B	300/600	1.27	1.29	1.6%
	500/1,000	1.41	1.44	2.1%
	1,000/2,000	1.60	1.65	3.1%
	2,000/4,000	1.82	1.89	3.8%
C	300/600	1.35	1.42	5.2%
	500/1,000	1.55	1.69	9.0%
	1,000/2,000	1.84	2.13	15.8%
	2,000/4,000	2.19	2.65	21.0%

Explanation for this exhibit is provided on page A-1.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

CALCULATION OF INCREASED LIMIT FACTORS

PREMISES/OPERATIONS LIABILITY
STATE GROUP A

TABLE 1

(1)	(2)[a]	(3)	(4)	(5)	(6)	(7)[b]	(8)
						Indicated	Selected
Policy	Limited					Increased	Increased
Limit	Average	ALAE per	ULAE per	Process	Parameter	Limit	Limit
($,000)	Severity	Occurrence	Occurrence	Risk Load	Risk Load	Factor	Factor
100	10,260	3,936	1,207	104	84	1.00	1.00
200	12,126	3,936	1,365	193	100	1.14	1.14
250	12,658	3,936	1,410	231	105	1.18	1.18
300	13,061	3,936	1,445	266	109	1.21	1.21
500	14,033	3,936	1,527	382	117	1.28	1.28
750	14,673	3,936	1,582	502	123	1.34	1.34
1,000	15,078	3,936	1,616	607	126	1.37	1.37
1,500	15,587	3,936	1,659	794	130	1.42	1.42
2,000	15,912	3,936	1,687	961	133	1.45	1.45
2,500	16,151	3,936	1,707	1,119	135	1.48	1.48
3,000	16,340	3,936	1,723	1,272	137	1.50	1.50
4,000	16,625	3,936	1,748	1,563	139	1.54	1.54
5,000	16,831	3,936	1,765	1,835	141	1.57	1.57
10,000	17,376	3,936	1,812	2,972	146	1.68	1.68

[a] Reflects trend to prospective average accident date of December 1, 2021 and development to ultimate maturity.

[b] Reflects only per-occurrence limitation. Derived by taking the ratio of columns [(2) + (3) + (4) + (5) + (6)] at the policy limit to columns [(2) + (3) + (4) + (5) + (6)] at the basic limit ($100,000).

Explanation for this exhibit is provided on pages B-1 and B-2.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

CALCULATION OF INCREASED LIMIT FACTORS

PREMISES/OPERATIONS LIABILITY
STATE GROUP A

TABLE 2

(1)	(2)[a]	(3)	(4)	(5)	(6)	(7)[b]	(8)
						Indicated	Selected
Policy	Limited					Increased	Increased
Limit	Average	ALAE per	ULAE per	Process	Parameter	Limit	Limit
($,000)	Severity	Occurrence	Occurrence	Risk Load	Risk Load	Factor	Factor
100	13,025	7,089	1,710	151	162	1.00	1.00
200	16,029	7,089	1,965	299	201	1.16	1.16
250	16,948	7,089	2,043	367	213	1.20	1.20
300	17,689	7,089	2,106	433	223	1.24	1.24
500	19,771	7,089	2,283	690	250	1.36	1.36
750	21,393	7,089	2,421	999	271	1.45	1.45
1,000	22,466	7,089	2,512	1,282	285	1.52	1.52
1,500	23,843	7,089	2,629	1,793	303	1.61	1.61
2,000	24,755	7,089	2,707	2,266	315	1.68	1.68
2,500	25,440	7,089	2,765	2,723	324	1.73	1.73
3,000	25,984	7,089	2,811	3,166	331	1.78	1.78
4,000	26,802	7,089	2,881	4,005	342	1.86	1.86
5,000	27,391	7,089	2,931	4,782	350	1.92	1.92
10,000	28,961	7,089	3,064	8,069	371	2.15	2.15

[a] Reflects trend to prospective average accident date of December 1, 2021 and development to ultimate maturity.

[b] Reflects only per-occurrence limitation. Derived by taking the ratio of columns [(2) + (3) + (4) + (5) + (6)] at the policy limit to columns [(2) + (3) + (4) + (5) + (6)] at the basic limit ($100,000).

Explanation for this exhibit is provided on pages B-1 and B-2.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

CALCULATION OF INCREASED LIMIT FACTORS

PREMISES/OPERATIONS LIABILITY
STATE GROUP A

TABLE 3

(1)	(2)[a]	(3)	(4)	(5)	(6)	(7)[b]	(8)
						Indicated	Selected
Policy	Limited					Increased	Increased
Limit	Average	ALAE per	ULAE per	Process	Parameter	Limit	Limit
($,000)	Severity	Occurrence	Occurrence	Risk Load	Risk Load	Factor	Factor
100	18,925	12,974	2,711	268	409	1.00	1.00
200	25,151	12,974	3,241	602	544	1.20	1.20
250	27,309	12,974	3,424	772	590	1.28	1.28
300	29,098	12,974	3,576	940	629	1.34	1.34
500	34,249	12,974	4,014	1,613	741	1.52	1.52
750	38,552	12,974	4,380	2,467	835	1.68	1.68
1,000	41,659	12,974	4,644	3,318	903	1.80	1.80
1,500	45,850	12,974	5,000	4,915	994	1.98	1.98
2,000	48,552	12,974	5,230	6,347	1,053	2.10	2.10
2,500	50,477	12,974	5,393	7,653	1,096	2.20	2.20
3,000	51,951	12,974	5,519	8,871	1,128	2.28	2.28
4,000	54,119	12,974	5,703	11,126	1,176	2.41	2.41
5,000	55,673	12,974	5,835	13,199	1,210	2.52	2.52
10,000	59,790	12,974	6,185	21,870	1,300	2.89	2.89

[a] Reflects trend to prospective average accident date of December 1, 2021 and development to ultimate maturity.

[b] Reflects only per-occurrence limitation. Derived by taking the ratio of columns [(2) + (3) + (4) + (5) + (6)] at the policy limit to columns [(2) + (3) + (4) + (5) + (6)] at the basic limit ($100,000).

Explanation for this exhibit is provided on pages B-1 and B-2.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

CALCULATION OF INCREASED LIMIT FACTORS

PRODUCTS/COMPLETED OPERATIONS LIABILITY
MULTISTATE

TABLE A

(1)	(2)[a]	(3)	(4)	(5)	(6)	(7)[b]	(8)
						Indicated	Selected
Policy	Limited					Increased	Increased
Limit	Average	ALAE per	ULAE per	Process	Parameter	Limit	Limit
($,000)	Severity	Occurrence	Occurrence	Risk Load	Risk Load	Factor	Factor
100	16,094	11,594	2,353	189	2,068	1.00	1.00
200	19,815	11,594	2,670	374	2,550	1.15	1.15
250	20,977	11,594	2,769	460	2,700	1.19	1.19
300	21,891	11,594	2,846	542	2,819	1.23	1.23
500	24,311	11,594	3,052	842	3,133	1.33	1.33
750	26,163	11,594	3,209	1,195	3,372	1.41	1.41
1,000	27,430	11,594	3,317	1,530	3,537	1.47	1.47
1,500	29,062	11,594	3,456	2,135	3,749	1.55	1.55
2,000	30,090	11,594	3,543	2,669	3,883	1.60	1.60
2,500	30,829	11,594	3,606	3,162	3,979	1.65	1.65
3,000	31,405	11,594	3,655	3,631	4,054	1.68	1.68
4,000	32,271	11,594	3,729	4,520	4,166	1.74	1.74
5,000	32,904	11,594	3,782	5,356	4,248	1.79	1.79
10,000	34,631	11,594	3,929	8,979	4,473	1.97	1.97

[a] Reflects trend to prospective average accident date of December 1, 2021 and development to ultimate maturity.

[b] Reflects only per-occurrence limitation. Derived by taking the ratio of columns [(2) + (3) + (4) + (5) + (6)] at the policy limit to columns [(2) + (3) + (4) + (5) + (6)] at the basic limit ($100,000).

Explanation for this exhibit is provided on pages B-1 and B-2.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

CALCULATION OF INCREASED LIMIT FACTORS

PRODUCTS/COMPLETED OPERATIONS LIABILITY
MULTISTATE

TABLE B

(1)	(2)[a]	(3)	(4)	(5)	(6)	(7)[b]	(8)
						Indicated	Selected
Policy	Limited					Increased	Increased
Limit	Average	ALAE per	ULAE per	Process	Parameter	Limit	Limit
($,000)	Severity	Occurrence	Occurrence	Risk Load	Risk Load	Factor	Factor
100	29,717	44,144	6,278	501	9,444	1.00	1.00
200	40,528	44,144	7,197	1,123	12,910	1.18	1.18
250	44,210	44,144	7,510	1,430	14,094	1.24	1.24
300	47,238	44,144	7,767	1,732	15,070	1.29	1.29
500	55,745	44,144	8,491	2,893	17,810	1.43	1.43
750	62,560	44,144	9,070	4,293	20,004	1.55	1.55
1,000	67,365	44,144	9,478	5,645	21,555	1.64	1.64
1,500	73,802	44,144	10,025	8,151	23,640	1.77	1.77
2,000	78,007	44,144	10,383	10,419	25,005	1.86	1.86
2,500	81,074	44,144	10,644	12,529	26,000	1.94	1.94
3,000	83,475	44,144	10,848	14,536	26,777	2.00	2.00
4,000	87,081	44,144	11,154	18,321	27,946	2.09	2.09
5,000	89,701	44,144	11,377	21,845	28,797	2.17	2.17
10,000	96,699	44,144	11,972	36,667	31,073	2.45	2.45

[a] Reflects trend to prospective average accident date of December 1, 2021 and development to ultimate maturity.

[b] Reflects only per-occurrence limitation. Derived by taking the ratio of columns [(2) + (3) + (4) + (5) + (6)] at the policy limit to columns [(2) + (3) + (4) + (5) + (6)] at the basic limit ($100,000).

Explanation for this exhibit is provided on pages B-1 and B-2.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

CALCULATION OF INCREASED LIMIT FACTORS

PRODUCTS/COMPLETED OPERATIONS LIABILITY
MULTISTATE

TABLE C

(1)	(2)[a]	(3)	(4)	(5)	(6)	(7)[b]	(8)
						Indicated	Selected
Policy	Limited					Increased	Increased
Limit	Average	ALAE per	ULAE per	Process	Parameter	Limit	Limit
($,000)	Severity	Occurrence	Occurrence	Risk Load	Risk Load	Factor	Factor
100	38,487	70,411	9,256	767	22,612	1.00	1.00
200	57,941	70,411	10,910	2,003	34,054	1.24	1.24
250	65,533	70,411	11,555	2,702	38,521	1.33	1.33
300	72,195	70,411	12,122	3,432	42,442	1.42	1.42
500	92,864	70,411	13,878	6,540	54,613	1.68	1.68
750	111,164	70,411	15,434	10,644	65,394	1.93	1.93
1,000	124,891	70,411	16,601	14,823	73,486	2.12	2.12
1,500	144,295	70,411	18,250	22,921	84,938	2.41	2.41
2,000	157,280	70,411	19,354	30,339	92,612	2.61	2.61
2,500	166,605	70,411	20,146	37,080	98,126	2.77	2.77
3,000	173,720	70,411	20,751	43,294	102,335	2.90	2.90
4,000	184,150	70,411	21,638	54,663	108,502	3.10	3.10
5,000	191,682	70,411	22,278	65,117	112,955	3.27	3.27
10,000	212,233	70,411	24,025	109,668	125,106	3.83	3.83

Reflects trend to prospective average accident date of December 1, 2021 and development to ultimate maturity.

Reflects only per-occurrence limitation. Derived by taking the ratio of columns [(2) + (3) + (4) + (5) + (6)] at the policy limit to columns [(2) + (3) + (4) + (5) + (6)] at the basic limit ($100,000).

Explanation for this exhibit is provided on pages B-1 and B-2.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

INDEMNITY SEVERITY TREND SELECTIONS

Multistate Paid Annual Average Occurrence Severities

Accident	Premises/Operations		Products/Completed Operations	
Year	Basic Limit	Total Limits	Basic Limit	Total Limits
2009	12,652	23,503	17,124	35,195
2010	12,515	22,976	17,006	34,435
2011	13,454	25,531	17,182	34,509
2012	13,507	26,164	17,510	36,102
2013	14,749	29,134	19,130	38,402
2014	15,709	31,470	20,423	43,655
2015	16,461	33,381	21,541	46,427
2016	16,413	33,868	22,797	50,379
2017	17,908	36,525	24,700	54,753
2018	18,656	38,889	24,225	55,883

Trend Indications

Trend	Basic Limit		Total Limits		Basic Limit		Total Limits	
Period	Trend Fit	R^2	Trend Fit	R^2	Trend Fit	R^2	Trend Fit	R^2
10 years	4.7%	0.9724	6.2%	0.9781	4.9%	0.9422	6.4%	0.9340
8 years	5.0%	0.9689	6.3%	0.9794	5.8%	0.9695	7.8%	0.9846
6 years	4.6%	0.9559	5.6%	0.9789	5.3%	0.9443	7.8%	0.9681
4 years	4.7%	0.8836	5.5%	0.9435	4.4%	0.8093	6.6%	0.9469
Selection			**6.0%**				**6.5%**	

Explanation for this exhibit is provided on page B-6.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

PAYMENT LAG PARAMETERS AND LAG WEIGHTS

PREMISES/OPERATIONS LIABILITY
STATE GROUP A

Payment Lag Parameters

	TABLE 1	TABLE 2	TABLE 3
R1 =	0.56665998	0.54521891	0.50433689
R2 =	0.26071286	0.28229912	0.31280963
R3 =	0.47524821	0.51417110	0.61155313
k = 1+R1+((R1•R2)/(1-R3)) =	1.84819412	1.86202760	1.91047077

Generation of Lag Weights

		TABLE 1	TABLE 2	TABLE 3
Lag 1 =	$1 / k$ =	0.54106871	0.53704897	0.52343119
Lag 2 =	$R1 / k$ =	0.30660198	0.29280925	0.26398566
Lag 3 =	$R1•R2/k$ =	0.07993508	0.08265979	0.08257726
Lag 4 =	$R1•R2•R3/k$ =	0.03798900	0.04250128	0.05050038
Lag 5 =	$R1•R2•R3^2/k$ =	0.01805421	0.02185293	0.03088367
Lag 6 =	$R1•R2•R3^3/k$ =	0.00858023	0.01123614	0.01888700
Lag 7 =	$R1•R2•(R3^4/(1-R3))/k$ =	0.00777079	0.01189164	0.02973484

The lag weight distribution includes assigned or allocated CRR data, but excludes data with a non-zero deductible or attachment point.

Explanation for this exhibit is provided on pages B-11 and B-12.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

PAYMENT LAG PARAMETERS AND LAG WEIGHTS

PRODUCTS/COMPLETED OPERATIONS LIABILITY
MULTISTATE

Payment Lag Parameters

	TABLE A	TABLE B	TABLE C
R1 =	0.51387689	0.75165972	0.91830652
R2 =	0.26001490	0.47795979	0.63422885
R3 =	0.65693658	0.76760356	0.74909783
k = 1+R1+((R1•R2)/(1-R3)) =	1.90335487	3.29756603	4.23959568

Generation of Lag Weights

		TABLE A	TABLE B	TABLE C
Lag 1 =	$1/k$ =	0.52538811	0.30325397	0.23587156
Lag 2 =	$R1/k$ =	0.26998480	0.22794380	0.21660238
Lag 3 =	$R1•R2/k$ =	0.07020007	0.10894797	0.13737548
Lag 4 =	$R1•R2•R3/k$ =	0.04611699	0.08362885	0.10290767
Lag 5 =	$R1•R2•R3^2/k$ =	0.03029594	0.06419380	0.07708791
Lag 6 =	$R1•R2•R3^3/k$ =	0.01990251	0.04927539	0.05774639
Lag 7 =	$R1•R2•(R3^4/(1-R3))/k$ =	0.03811158	0.16275622	0.17240861

The lag weight distribution includes assigned or allocated CRR data, but excludes data with a non-zero deductible or attachment point.

Explanation for this exhibit is provided on pages B-11 and B-12.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

PARAMETERS FOR MIXED EXPONENTIAL DISTRIBUTIONS[a]

PREMISES/OPERATIONS LIABILITY
STATE GROUP A

TABLE 1		TABLE 2		TABLE 3	
Mean	Weight	Mean	Weight	Mean	Weight
1,007	0.351953	1,736	0.471937	3,623	0.517237
4,358	0.320895	10,816	0.390909	17,475	0.324070
11,591	0.197759	65,556	0.111824	106,295	0.118714
38,037	0.082761	343,563	0.021132	559,983	0.031479
114,805	0.038870	1,469,311	0.003254	1,806,060	0.006570
411,398	0.006555	4,491,681	0.000717	5,081,379	0.001344
1,805,791	0.000985	11,656,727	0.000147	10,725,311	0.000322
6,102,651	0.000172	24,854,305	0.000058	22,485,578	0.000204
19,603,738	0.000041	100,000,000	0.000022	100,000,000	0.000060
97,533,804	0.000009				

PRODUCTS/COMPLETED OPERATIONS LIABILITY
MULTISTATE

TABLE A		TABLE B		TABLE C	
Mean	Weight	Mean	Weight	Mean	Weight
1,069	0.090175	1,054	0.046791	1,108	0.090543
5,353	0.518952	5,150	0.284985	6,237	0.220537
17,939	0.062595	14,545	0.199779	12,859	0.071698
20,444	0.213725	32,218	0.213549	32,016	0.282213
97,972	0.094235	114,865	0.187940	151,386	0.196989
477,991	0.016886	509,460	0.053018	730,020	0.109670
1,788,565	0.002661	1,863,684	0.010924	2,341,254	0.021418
5,598,269	0.000583	5,705,708	0.002301	6,719,940	0.005116
17,802,738	0.000153	17,766,203	0.000587	19,997,329	0.001471
91,437,257	0.000035	88,530,954	0.000126	98,496,852	0.000345

[a] Mixed Exponential parameters are based on an average accident date of December 1, 2021.

Explanation for this exhibit is provided on page B-15.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

COMPARISON OF LIMITED AVERAGE SEVERITIES

PREMISES/OPERATIONS LIABILITY
STATE GROUP A

Policy Limit ($,000)	TABLE 1			TABLE 2		
	Empirical LAS[a]	Fitted LAS	Percent Difference	Empirical LAS[a]	Fitted LAS	Percent Difference
100	10,260	10,260	0.00%	12,993	13,025	0.25%
200	12,115	12,126	0.09%	15,932	16,029	0.61%
250	12,640	12,658	0.14%	16,871	16,948	0.46%
300	13,045	13,061	0.12%	17,636	17,689	0.30%
500	14,040	14,033	-0.05%	19,695	19,771	0.39%
1,000	15,075	15,078	0.02%	22,360	22,466	0.47%
1,500	15,607	15,587	-0.13%	23,762	23,843	0.34%
2,000	15,917	15,912	-0.03%	24,653	24,755	0.41%
2,500	16,164	16,151	-0.08%	25,344	25,440	0.38%
3,000	16,361	16,340	-0.13%	25,898	25,984	0.33%
4,000	16,649	16,625	-0.14%	26,716	26,802	0.32%
5,000	16,851	16,831	-0.12%	27,300	27,391	0.33%
10,000	17,392	17,376	-0.09%	28,865	28,961	0.33%

Policy Limit ($,000)	TABLE 3		
	Empirical LAS[a]	Fitted LAS	Percent Difference
100	18,936	18,925	-0.06%
200	25,129	25,151	0.09%
250	27,301	27,309	0.03%
300	29,102	29,098	-0.01%
500	34,236	34,249	0.04%
1,000	41,676	41,659	-0.04%
1,500	45,878	45,850	-0.06%
2,000	48,573	48,552	-0.04%
2,500	50,501	50,477	-0.05%
3,000	51,976	51,951	-0.05%
4,000	54,135	54,119	-0.03%
5,000	55,690	55,673	-0.03%
10,000	59,810	59,790	-0.03%

[a] For Premises/Operations, empirical limited average severities reflect credibility-weighting with state group complement data.

Explanation for this exhibit is provided on page B-15.

Maryland   GL-2021-IALL1   Exhibit 15

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

COMPARISON OF LIMITED AVERAGE SEVERITIES

PRODUCTS/COMPLETED OPERATIONS LIABILITY
MULTISTATE

	TABLE A			TABLE B		
Policy Limit ($,000)	Empirical LAS[a]	Fitted LAS	Percent Difference	Empirical LAS[a]	Fitted LAS	Percent Difference
100	16,138	16,094	-0.27%	29,765	29,717	-0.16%
200	19,831	19,815	-0.08%	40,535	40,528	-0.02%
250	20,987	20,977	-0.05%	44,189	44,210	0.05%
300	21,913	21,891	-0.10%	47,245	47,238	-0.01%
500	24,351	24,311	-0.16%	55,844	55,745	-0.18%
1,000	27,457	27,430	-0.10%	67,391	67,365	-0.04%
1,500	29,124	29,062	-0.21%	73,856	73,802	-0.07%
2,000	30,133	30,090	-0.14%	78,057	78,007	-0.06%
2,500	30,889	30,829	-0.19%	81,037	81,074	0.05%
3,000	31,474	31,405	-0.22%	83,505	83,475	-0.04%
4,000	32,340	32,271	-0.21%	87,147	87,081	-0.08%
5,000	32,968	32,904	-0.19%	89,749	89,701	-0.05%
10,000	34,691	34,631	-0.17%	96,737	96,699	-0.04%

	TABLE C		
Policy Limit ($,000)	Empirical LAS[a]	Fitted LAS	Percent Difference
100	38,576	38,487	-0.23%
200	57,970	57,941	-0.05%
250	65,556	65,533	-0.04%
300	72,222	72,195	-0.04%
500	93,234	92,864	-0.40%
1,000	124,805	124,891	0.07%
1,500	144,526	144,295	-0.16%
2,000	157,408	157,280	-0.08%
2,500	166,672	166,605	-0.04%
3,000	173,801	173,720	-0.05%
4,000	184,297	184,150	-0.08%
5,000	191,846	191,682	-0.09%
10,000	212,358	212,233	-0.06%

[a] For Products/Completed Operations, empirical limited average severities reflect tail smoothing.

Explanation for this exhibit is provided on page B-15.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

<u>CALCULATION OF ALLOCATED LOSS ADJUSTMENT EXPENSE PER OCCURRENCE</u>

PREMISES/OPERATIONS LIABILITY
STATE GROUP A

<u>Ratios of ALAE to Total Limits Indemnity - Paid Data[a]</u>

Accident Year	Table 1	Table 2	Table 3
2011	0.27337	0.35277	0.31318
2012	0.24849	0.30591	0.34564
2013	0.28680	0.34220	0.28148
2014	0.28433	0.29364	0.29770
2015	0.22765	0.31255	0.29219
2016	0.24731	0.30530	0.34852
2017	0.24506	0.30737	0.29737
Best 5-of-7 Average	0.25971	0.31467	0.30922

<u>Indicated ALAE per Occurrence</u>

	(1) ALAE per Total Limits	(2) Mixed Exponential Total Limits	(1) x (2) ALAE per
Table	Indemnity	Average Severity[b]	Occurrence
1	0.25971	15,157	3,936
2	0.31467	22,529	7,089
3	0.30922	41,957	12,974

[a] Derived from paid aggregate state group data developed to ultimate.

[b] Occurrence-weighted average of limited average severities from Exhibits 5-7.

Explanation for this exhibit is provided on page B-18.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

CALCULATION OF ALLOCATED LOSS ADJUSTMENT EXPENSE PER OCCURRENCE

PRODUCTS/COMPLETED OPERATIONS LIABILITY
MULTISTATE

Ratios of ALAE to Total Limits Indemnity - Paid Data[a]

Accident Year	Table A	Table B	Table C
2011	0.42184	0.68071	0.56458
2012	0.49879	0.67588	0.58151
2013	0.44447	0.63564	0.61148
2014	0.40475	0.63940	0.49650
2015	0.40756	0.63349	0.53087
2016	0.42562	0.65670	0.53995
2017	0.40369	0.64817	0.57498
Best 5-of-7 Average	0.42085	0.65116	0.55838

Indicated ALAE per Occurrence

Table	(1) ALAE per Total Limits Indemnity	(2) Mixed Exponential Total Limits Average Severity[b]	(1) x (2) ALAE per Occurrence
A	0.42085	27,550	11,594
B	0.65116	67,793	44,144
C	0.55838	126,099	70,411

[a] Derived from paid aggregate multistate data developed to ultimate.

[b] Occurrence-weighted average of limited average severities from Exhibits 8-10.

Explanation for this exhibit is provided on page B-18.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

DEVELOPMENT OF UNALLOCATED LOSS ADJUSTMENT EXPENSE FACTOR

General Liability Excluding Medical Professional Liability
Multistate Expense Experience
Loss Adjustment Expense Special Call

		CALENDAR YEAR			
ITEM[a]	2014	2015	2016	2017	2018
(1) Direct Losses Incurred	20,338,262	25,301,890	26,175,083	23,084,643	26,920,048
(2) Allocated Loss Adjustment Expenses Incurred (ALAE)	5,287,378	6,141,101	5,079,567	6,058,484	5,902,031
(3) Unallocated Loss Adjustment Expenses Incurred (ULAE)	2,425,208	2,534,792	2,658,432	2,367,750	2,313,863
(4) Incurred Losses + ALAE [(1) + (2)]	25,625,640	31,442,990	31,254,650	29,143,127	32,822,079

Incurred Percentage[b]

	2014	2015	2016	2017	2018
(5) ULAE as Ratio to (Losses + ALAE) [(3) / (4)]	9.46%	8.06%	8.51%	8.12%	7.05%

Selected ULAE Factor: **8.5%**

[a] Items (1) - (3) are from an ISO special call submission for available writers. All dollar amounts are displayed in thousands.

[b] Incurred percentages are calculated on a direct basis.

Explanation for this exhibit is provided on page B-18.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

RISK LOAD PARAMETERS

GENERAL AND COMMERCIAL AUTOMOBILE LIABILITY

$$\text{Lambda}(\lambda)^a \qquad = \qquad 1.4599\text{E-}07$$

MULTISTATE PARAMETERS

Premises/Operations			Products/Completed Operations		
d	=	1.725	d	=	1.469
c	=	0.005	c	=	0.015
a	=	0.001	a	=	0.001
nbarc	=	350	nbarc	=	1,050

VALUES OF nbara

Premises/Operations STATE GROUP A		Products/Completed Operations MULTISTATE	
Table 1	168.78	Table A	331.07
Table 2	248.90	Table B	568.88
Table 3	46.77	Table C	150.05

[a] ISO determines lambda so that the ratio of the average increased limit factor with risk load to the average increased limit factor without risk load is equal to 1.06 for all states for all (non-professional) commercial liability lines combined.

Explanation for this exhibit is provided on pages B-19 through B-22.

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

MIXED NEGATIVE BINOMIAL FREQUENCY PARAMETERS
MULTISTATE

Premises/Operations Liability

j	w_j	r_j	β_i	m_i
1	0.92211524	1.00000000	9.98580849E+12	1.001E-13
2	0.05564394	9.84512420	3.08916580E+01	0.319
3	0.00231264	2.81736112	1.51157272E+00	1.864
4	0.01992818	0.02292149	1.30039375E-01	0.176
			Weighted:	0.026

Products/Completed Operations Liability

j	w_j	r_j	β_i	m_i
1	0.92702622	0.05408610	7.35519231	0.007
2	0.00572834	0.01000000	0.07486523	0.134
3	0.06724544	0.02415934	0.71039635	0.034
			Weighted:	0.010

Explanation for this exhibit is provided on page A-2.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

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REVISED INCREASED LIMIT FACTORS

(Limits are in thousands)

RULE 56.
INCREASED LIMITS TABLES

1. **Premises/Operations (Subline Code 334) Table 1 - $100/200 Basic Limit**

Aggregate	Per Occurrence						
	$ 25	**50**	**100**	**200**	**300**	**500**	**1,000**
$ 50	0.71~~0.73~~	0.81~~0.83~~					
100	0.72~~0.74~~	0.85~~0.86~~	0.97				
200	0.73~~0.75~~	0.86~~0.87~~	1.00	1.10~~1.09~~			
300	0.74~~0.76~~	0.87~~0.88~~	1.01	1.11~~1.10~~	1.18~~1.15~~		
500		0.89~~0.90~~	1.03	1.13~~1.12~~	1.20~~1.17~~	1.26~~1.23~~	
600		0.90~~0.91~~	1.04	1.14~~1.13~~	1.21~~1.18~~	1.27~~1.24~~	
1,000			1.05	1.15~~1.14~~	1.22~~1.19~~	1.28~~1.25~~	1.34~~1.31~~
1,500				1.16~~1.15~~	1.23~~1.20~~	1.29~~1.26~~	1.35~~1.32~~
2,000				1.17~~1.16~~	1.24~~1.21~~	1.30~~1.27~~	1.36~~1.33~~
2,500					1.25~~1.22~~	1.31~~1.28~~	1.37~~1.34~~
3,000					1.26~~1.23~~	1.32~~1.29~~	1.38~~1.35~~

The following factors MUST be referred to company before using.

Aggregate	Per Occurrence						
	$ 500	**1,000**	**1,500**	**2,000**	**3,000**	**4,000**	**5,000**	**10,000**
$ 1,500			1.39~~1.36~~					
2,000			1.40~~1.37~~	1.42~~1.39~~				
2,500			1.41~~1.38~~	1.43~~1.40~~				
3,000			1.42~~1.39~~	1.44~~1.41~~	1.48~~1.45~~			
4,000	1.33~~1.30~~	1.39~~1.36~~	1.43~~1.40~~	1.45~~1.42~~	1.49~~1.46~~	1.53~~1.50~~		
5,000	1.34~~1.31~~	1.40~~1.37~~	1.44~~1.41~~	1.46~~1.43~~	1.50~~1.47~~	1.54~~1.51~~	1.57~~1.55~~	
10,000		1.41~~1.38~~	1.45~~1.42~~	1.47~~1.44~~	1.51~~1.48~~	1.55~~1.52~~	1.58~~1.56~~	1.68~~1.67~~
20,000								1.69~~1.68~~

Table 56.B.1. Premises/Operations (Subline Code 334) Table 1 - $100/200 Basic Limit

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(Limits are in thousands)

RULE 56.
INCREASED LIMITS TABLES

2.   Premises/Operations (Subline Code 334) Table 2 - $100/200 Basic Limit

Aggregate	$ 25	50	100	200	300	500	1,000
				Per Occurrence			
$ 50	0.71	0.81					
100	0.73	0.85	0.97				
200	0.74	0.86	1.00	1.13~~1.12~~			
300	0.75	0.87	1.01	1.14~~1.13~~	1.22~~1.21~~		
500		0.89	1.03	1.16~~1.15~~	1.24~~1.23~~	1.34~~1.33~~	
600		0.90	1.04	1.17~~1.16~~	1.25~~1.24~~	1.35~~1.34~~	
1,000			1.05	1.18~~1.17~~	1.26~~1.25~~	1.36~~1.35~~	1.49~~1.48~~
1,500				1.19~~1.18~~	1.27~~1.26~~	1.37~~1.36~~	1.50~~1.49~~
2,000				1.20~~1.19~~	1.28~~1.27~~	1.38~~1.37~~	1.51~~1.50~~
2,500					1.29~~1.28~~	1.39~~1.38~~	1.52~~1.51~~
3,000					1.30~~1.29~~	1.40~~1.39~~	1.53~~1.52~~

The following factors MUST be referred to company before using.

Aggregate	$ 500	1,000	1,500	2,000	3,000	4,000	5,000	10,000
				Per Occurrence				
$ 1,500			1.59~~1.57~~					
2,000			1.60~~1.58~~	1.65~~1.64~~				
2,500			1.61~~1.59~~	1.66~~1.65~~				
3,000			1.62~~1.60~~	1.67~~1.66~~	1.77~~1.75~~			
4,000	1.41~~1.40~~	1.54~~1.53~~	1.63~~1.61~~	1.68~~1.67~~	1.78~~1.76~~	1.86~~1.84~~		
5,000	1.42~~1.41~~	1.55~~1.54~~	1.64~~1.62~~	1.69~~1.68~~	1.79~~1.77~~	1.87~~1.85~~	1.93~~1.92~~	
10,000		1.56~~1.55~~	1.65~~1.63~~	1.70~~1.69~~	1.80~~1.78~~	1.88~~1.86~~	1.94~~1.93~~	2.16~~2.14~~
20,000								2.17~~2.15~~

Table 56.B.2. Premises/Operations (Subline Code 334) Table 2 - $100/200 Basic Limit

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(Limits are in thousands)

RULE 56.
INCREASED LIMITS TABLES

3.　　Premises/Operations (Subline Code 334) Table 3 - $100/200 Basic Limit

Aggregate	Per Occurrence						
	$ 25	50	100	200	300	500	1,000
$ 50	0.70	0.79~~0.80~~					
100	0.71	0.83~~0.84~~	0.96				
200	0.72	0.85	1.00	1.17~~1.16~~			
300	0.73	0.86	1.01	1.19~~1.18~~	1.31~~1.30~~		
500		0.88	1.03	1.21~~1.20~~	1.34~~1.32~~	1.50~~1.48~~	
600		0.89	1.04	1.22~~1.21~~	1.35~~1.33~~	1.52~~1.50~~	
1,000			1.05	1.23~~1.22~~	1.36~~1.34~~	1.53~~1.51~~	1.79~~1.75~~
1,500				1.24~~1.23~~	1.37~~1.35~~	1.54~~1.52~~	1.80~~1.76~~
2,000				1.25~~1.24~~	1.38~~1.36~~	1.55~~1.53~~	1.81~~1.77~~
2,500					1.39~~1.37~~	1.56~~1.54~~	1.82~~1.78~~
3,000					1.40~~1.38~~	1.57~~1.55~~	1.83~~1.79~~

The following factors MUST be referred to company before using.

Aggregate	Per Occurrence							
	$ 500	1,000	1,500	2,000	3,000	4,000	5,000	10,000
$ 1,500			1.97~~1.93~~					
2,000			1.98~~1.94~~	2.10~~2.06~~				
2,500			1.99~~1.95~~	2.11~~2.07~~				
3,000			2.00~~1.96~~	2.12~~2.08~~	2.29~~2.25~~			
4,000	1.58~~1.56~~	1.84~~1.80~~	2.01~~1.97~~	2.13~~2.09~~	2.30~~2.26~~	2.43~~2.39~~		
5,000	1.59~~1.57~~	1.85~~1.81~~	2.02~~1.98~~	2.14~~2.10~~	2.31~~2.27~~	2.44~~2.40~~	2.55~~2.51~~	
10,000		1.86~~1.82~~	2.03~~1.99~~	2.15~~2.11~~	2.32~~2.28~~	2.45~~2.41~~	2.56~~2.52~~	2.93~~2.90~~
20,000								2.94~~2.91~~

Table 56.B.3. Premises/Operations (Subline Code 334) Table 3 - $100/200 Basic Limit

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(Limits are in thousands)

RULE 56.
INCREASED LIMITS TABLES

4.   **Products/Completed Operations (Subline Code 336) Table A - $100/200 Basic Limit**

Aggregate	Per Occurrence						
	$ 25	50	100	200	300	500	1,000
$ 50	0.74	0.84					
100	0.75	0.86 0.87	0.98				
200	0.76	0.87 0.88	1.00	1.12 1.10			
300	0.77	0.88 0.89	1.01	1.13 1.11	1.20 1.18		
500		0.90 0.91	1.03	1.15 1.13	1.22 1.20	1.31 1.30	
600		0.91 0.92	1.04	1.16 1.14	1.23 1.21	1.32 1.31	
1,000			1.05	1.17 1.15	1.24 1.22	1.33 1.32	1.45 1.44
1,500				1.18 1.16	1.25 1.23	1.34 1.33	1.46 1.45
2,000				1.19 1.17	1.26 1.24	1.35 1.34	1.47 1.46
2,500					1.27 1.25	1.36 1.35	1.48 1.47
3,000					1.28 1.26	1.37 1.36	1.49 1.48

The following factors MUST be referred to company before using.

Aggregate	Per Occurrence						
	$ 500	1,000	1,500	2,000	3,000	4,000	5,000	10,000
$ 1,500			1.53 1.54					
2,000			1.54 1.55	1.58 1.60				
2,500			1.55 1.56	1.59 1.61				
3,000			1.56 1.57	1.60 1.62	1.67 1.71			
4,000	1.38 1.37	1.50 1.49	1.57 1.58	1.61 1.63	1.68 1.72	1.74 1.80		
5,000	1.39 1.38	1.51 1.50	1.58 1.59	1.62 1.64	1.69 1.73	1.75 1.81	1.80 1.87	
10,000		1.52 1.51	1.59 1.60	1.63 1.65	1.70 1.74	1.76 1.82	1.81 1.88	1.98 2.10
20,000								1.99 2.11

Table 56.B.4. Products/Completed Operations (Subline Code 336) Table A - $100/200 Basic Limit

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(Limits are in thousands)

RULE 56.
INCREASED LIMITS TABLES

5.　　Products/Completed Operations (Subline Code 336) Table B - $100/200 Basic Limit

Aggregate	Per Occurrence						
	$ 25	50	100	200	300	500	1,000
$ 50	0.74~~0.73~~	0.83~~0.81~~					
100	0.75~~0.74~~	0.85	0.97~~0.96~~				
200	0.76~~0.75~~	0.86	1.00	1.15~~1.13~~			
300	0.77~~0.76~~	0.87	1.01	1.16~~1.14~~	1.26~~1.24~~		
500		0.89	1.03	1.18~~1.16~~	1.28~~1.26~~	1.42~~1.39~~	
600		0.90	1.04	1.19~~1.17~~	1.29~~1.27~~	1.43~~1.40~~	
1,000			1.05	1.20~~1.18~~	1.30~~1.28~~	1.44~~1.41~~	1.63~~1.58~~
1,500				1.21~~1.19~~	1.31~~1.29~~	1.45~~1.42~~	1.64~~1.59~~
2,000				1.22~~1.20~~	1.32~~1.30~~	1.46~~1.43~~	1.65~~1.60~~
2,500					1.33~~1.31~~	1.47~~1.44~~	1.66~~1.61~~
3,000					1.34~~1.32~~	1.48~~1.45~~	1.67~~1.62~~

The following factors MUST be referred to company before using.

Aggregate	Per Occurrence							
	$ 500	1,000	1,500	2,000	3,000	4,000	5,000	10,000
$ 1,500			1.76~~1.70~~					
2,000			1.77~~1.71~~	1.86~~1.79~~				
2,500			1.78~~1.72~~	1.87~~1.80~~				
3,000			1.79~~1.73~~	1.88~~1.81~~	2.00~~1.94~~			
4,000	1.49~~1.46~~	1.68~~1.63~~	1.80~~1.74~~	1.89~~1.82~~	2.01~~1.95~~	2.11~~2.05~~		
5,000	1.50~~1.47~~	1.69~~1.64~~	1.81~~1.75~~	1.90~~1.83~~	2.02~~1.96~~	2.12~~2.06~~	2.20~~2.14~~	
10,000		1.70~~1.65~~	1.82~~1.76~~	1.91~~1.84~~	2.03~~1.97~~	2.13~~2.07~~	2.21~~2.15~~	2.48~~2.42~~
20,000								2.49~~2.43~~

Table 56.B.5. Products/Completed Operations (Subline Code 336) Table B - $100/200 Basic Limit

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(Limits are in thousands)

RULE 56.
INCREASED LIMITS TABLES

6.   Products/Completed Operations (Subline Code 336) Table C - $100/200 Basic Limit

Aggregate	Per Occurrence						
	$ 25	50	100	200	300	500	1,000
$ 50	0.72	0.81<s>0.78</s>					
100	0.73	0.83<s>0.84</s>	0.97<s>0.93</s>				
200	0.74	0.84<s>0.85</s>	1.00	1.20<s>1.14</s>			
300	0.75	0.85<s>0.86</s>	1.01	1.22<s>1.18</s>	1.37<s>1.29</s>		
500		0.87<s>0.88</s>	1.03	1.24<s>1.20</s>	1.41<s>1.34</s>	1.63<s>1.50</s>	
600		0.88<s>0.89</s>	1.04	1.25<s>1.21</s>	1.42<s>1.35</s>	1.65<s>1.52</s>	
1,000			1.05	1.26<s>1.22</s>	1.43<s>1.36</s>	1.69<s>1.55</s>	2.07<s>1.82</s>
1,500				1.27<s>1.23</s>	1.44<s>1.37</s>	1.70<s>1.56</s>	2.12<s>1.83</s>
2,000				1.28<s>1.24</s>	1.45<s>1.38</s>	1.71<s>1.57</s>	2.13<s>1.84</s>
2,500					1.46<s>1.39</s>	1.72<s>1.58</s>	2.14<s>1.85</s>
3,000					1.47<s>1.40</s>	1.73<s>1.59</s>	2.15<s>1.86</s>

The following factors MUST be referred to company before using.

Aggregate	Per Occurrence							
	$ 500	1,000	1,500	2,000	3,000	4,000	5,000	10,000
$ 1,500			2.37<s>2.02</s>					
2,000			2.40<s>2.03</s>	2.58<s>2.16</s>				
2,500			2.42<s>2.04</s>	2.61<s>2.17</s>				
3,000			2.43<s>2.05</s>	2.63<s>2.18</s>	2.89<s>2.35</s>			
4,000	1.74<s>1.60</s>	2.16<s>1.87</s>	2.45<s>2.06</s>	2.65<s>2.19</s>	2.92<s>2.36</s>	3.10<s>2.50</s>		
5,000	1.75<s>1.61</s>	2.17<s>1.88</s>	2.46<s>2.07</s>	2.66<s>2.20</s>	2.94<s>2.37</s>	3.13<s>2.51</s>	3.28<s>2.61</s>	
10,000		2.18<s>1.89</s>	2.47<s>2.08</s>	2.67<s>2.21</s>	2.96<s>2.38</s>	3.17<s>2.52</s>	3.33<s>2.63</s>	3.87<s>2.99</s>
20,000								3.91<s>3.00</s>

Table 56.B.6. Products/Completed Operations (Subline Code 336) Table C - $100/200 Basic Limit

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GENERAL LIABILITY INCREASED LIMIT FACTORS

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REVISED INCREASED LIMITS TABLE ASSIGNMENTS

● **Class Codes 10010 – 15699**

Premises/Operations (Subline Code 334) And Products/Completed Operations (Subline Code 336) Increased Limits Table Assignments By Classification – $100/200 Basic Limit											
Class Code	IL Table	Class Code	IL Table	Class Code	IL Table	Class Code	IL Table	Class Code	IL Table	Class Code	IL Table
10010	2B	10133	1–	11052	1–	11273	2–	13207	2A	14731	1–
10015	2–	10135	2–	11101	3B	11274	2–	13208	3C	14732	1–
10020	2B	10140	1A	11120	2–	11288	1A	13314	1B	14733	2–
10026	2B	10141	2A	11126	2C	12014	2B	13351	2A	14734	2–
10036	3C	10145	1A	11127	1B	12356	1B	13352	2A	14855	2B
10040	2B	10146	1A	11128	1B	12361	2B	13410	2C	14913	1B
10042	1A	10150	2C	11138	2–	12362	3B	13411	3C	15060	3C
10052	3–	10151	2–	11155	1–	12373	3A	13412	2C	15061	3C
10054	3–	10160	1–	11160	2B	12374	1C	13453	2A	15062	3C
10060	1B	10204	2–	11167	2–	12375	2C	13454	2A	15063	2C
10065	1B	10205	2–	11168	2–	12391	2B	13455	2A	15070	2–
10066	1B	10220	1–	11201	3–	12393	1C	13461	2B	15119	2–
10070	2B	10255	2B	11202	3–	12467	2B	13506	1B	15120	2–
10071	2B	10256	2B	11203	2C	12509	2B	13507	1B	15123	1–
10072	1–	10257	2B	11204	2C	12510	2B	13590	2B	15124	1–
10073	2A	10309	2B	11205	3–	12583	2B	13621	2A	15188	2C
10075	3A	10315	2C	11206	3–	12651	2B	13670	2B	15223	2A
10100	1B	10331	2–	11207	3–	12683	2B	13673	1A	15224	1B
10101	2B	10332	2–	11208	3–	12707	2C	13715	2C	15300	2–
10105	2–	10352	1A	11209	3–	12797	2B	13716	2B	15314	1C
10107	2B	10367	1–	11210	3–	12805	2A	13720	1A	15404	3C
10110	2–	10368	1–	11211	3–	12841	1–	13759	1B	15405	3C
10111	2B	10375	2–	11212	3–	12927	1–	13930	2B	15406	3B
10113	1–	10378	2–	11213	3–	13049	2B	14068	1B	15488	2B
10115	1B	10379	2–	11214	3–	13111	1A	14101	1B	15538	2B
10117	2–	10380	2–	11222	2–	13112	3A	14279	2B	15600	1B
10119	2–	10381	2–	11234	1B	13201	2B	14401	2A	15607	3–
10120	2–	11007	2–	11248	2B	13204	1A	14405	2–	15608	1B
10130	2–	11020	1B	11258	1A	13205	2C	14527	2B	15656	2–
10132	2–	11039	2A	11259	1A	13206	2A	14655	2–	15699	2–

Table 56.C.#1(ILTA) Increased Limits Table Assignments – Class Codes 10010 – 15699

INSURANCE SERVICES OFFICE, INC.

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REVISED INCREASED LIMITS TABLE ASSIGNMENTS

● **Class Codes 15733 – 45450**

Premises/Operations (Subline Code 334) And Products/Completed Operations (Subline Code 336) Increased Limits Table Assignments By Classification – $100/200 Basic Limit											
Class Code	**IL Table**	**Class Code**	**IL Table**	**Class Code**	**IL Table**	**Class Code**	**IL Table**	**Class Code**	**IL Table**	**Class Code**	**IL Table**
15733	2B	16915	1A	19061	2–	41422	2–	43517	2–	44113	2–
15839	1B	16916	1A	19795	2C	41510	1–	43518	2–	44193	2–
15991	2B	16920	1A	19796	2–	41603	1–	43550	2–	44194	2–
15993	2B	16921	1A	40005	2–	41604	1–	43551	2–	44222	3–
16005	3B	16930	1A	40006	2–	41620	3–	43626	3–	44276	2–
16009	2B	16931	1A	40010	3–	41650	1–	43628	3–	44277	2–
16402	1–	16940	1A	40015	3–	41664	2–	43629	3–	44280	3–
16403	1B	16941	1A	40020	3–	41665	1–	43754	2–	44311	2–
16404	1–	18078	2B	40026	3–	41666	2–	43760	2–	44315	2–
16471	2–	18109	1B	40031	3–	41667	1–	43822	2–	44427	2–
16501	2B	18110	1B	40032	3–	41668	1–	43840	3–	44428	2–
16527	2B	18200	2–	40040	2–	41669	2–	43860	2–	44429	2–
16588	2C	18205	3C	40041	2–	41670	2–	43889	2–	44430	2–
16604	2B	18206	2B	40042	2–	41672	2–	43945	3–	44431	2–
16670	2–	18335	1B	40045	2–	41673	2–	43946	3–	44432	2–
16676	2B	18435	1A	40046	2–	41675	2–	43990	2B	44433	3–
16694	2C	18436	1A	40047	2–	41677	3–	43991	2–	44434	3–
16705	2B	18437	1B	40059	2–	41678	2–	44009	1–	44435	2–
16722	2–	18438	1B	40061	2–	41679	3B	44010	3C	44436	2–
16723	2–	18501	1A	40063	2–	41680	1–	44069	1–	44437	2–
16750	2B	18506	2B	40064	2–	41696	2–	44070	2–	44438	2–
16751	2–	18507	1B	40066	2–	41697	2–	44071	2–	44439	2–
16819	1B	18570	2–	40067	2–	41700	3–	44072	2–	44440	2–
16820	1B	18575	2B	40069	2–	41715	1–	44100	2–	44500	2–
16881	1B	18616	2B	40072	2–	41716	1–	44101	1–	44501	2–
16890	2B	18707	3B	40075	2–	43007	3–	44102	1–	45190	2–
16891	2C	18708	1B	40101	2–	43117	2–	44103	2–	45191	1–
16892	2C	18833	3C	40102	2–	43151	2–	44104	2–	45192	1–
16900	1A	18834	2B	40111	2–	43152	2–	44105	2–	45193	2–
16901	1A	18911	1B	40115	2–	43200	2–	44106	2–	45210	1–
16902	1A	18912	1B	40117	2–	43215	2–	44108	2–	45224	3–
16905	1A	18920	1B	40140	2–	43421	1–	44109	2–	45225	3–
16906	1A	18991	2–	41001	2–	43422	1–	44110	2–	45334	2–
16910	1A	19007	2–	41210	3–	43424	1–	44111	2–	45380	2B
16911	1A	19051	1–	41421	2–	43470	2–	44112	2–	45450	2–

Table 56.C.#2(ILTA) Increased Limits Table Assignments – Class Codes 15733 – 45450

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

MANUAL PAGES

REVISED INCREASED LIMITS TABLE ASSIGNMENTS

- **Class Codes 45523 – 52076**

Premises/Operations (Subline Code 334) And Products/Completed Operations (Subline Code 336) Increased Limits Table Assignments By Classification – $100/200 Basic Limit											
Class Code	IL Table	Class Code	IL Table	Class Code	IL Table	Class Code	IL Table	Class Code	IL Table	Class Code	IL Table
45523	3–	46916	2–	48637	2–	50010	3C	51351	2A	51809	3C
45524	3–	47050	2–	48638	2–	50015	3B	51352	2A	51833	2B
45539	2–	47051	2–	48727	2–	50017	3B	51355	2A	51850	3C
45678	2–	47052	2–	48808	2–	50045	3B	51356	2A	51851	3C
45771	2B	47103	2–	48924	2–	50047	3B	51357	2B	51852	3C
45819	2B	47146	3–	48925	2–	51001	3B	51358	2B	51853	3C
45900	2C	47147	3–	49005	2–	51005	3B	51359	2C	51854	3C
45901	2C	47221	2–	49111	1–	51029	1A	51370	3B	51855	3C
45937	2–	47253	3–	49181	2–	51098	2B	51380	3B	51856	3C
45993	3C	47254	3–	49183	1–	51116	3B	51400	3C	51857	3C
46004	1–	47318	2–	49184	1–	51201	3C	51401	3C	51869	3B
46005	1–	47367	3–	49185	1–	51205	3C	51500	3C	51877	3B
46112	2–	47420	2–	49239	2C	51206	3C	51516	2–	51889	3B
46202	1–	47468	2–	49292	2–	51210	3C	51517	2–	51896	2C
46362	2–	47469	2–	49305	1–	51211	3C	51550	3B	51900	3B
46426	2–	47471	1–	49333	2–	51220	3C	51551	3B	51909	3B
46427	2–	47473	1–	49451	2–	51221	3C	51552	3B	51919	3B
46510	2–	47474	2–	49452	2–	51222	3C	51553	3B	51926	3B
46590	2–	47475	2–	49617	2A	51224	3C	51554	3B	51927	3B
46603	1–	47476	2–	49618	1B	51230	3C	51575	3B	51934	3B
46604	1–	47477	2–	49619	2B	51240	3C	51576	3B	51941	3B
46606	1–	47478	2–	49763	2–	51241	3C	51600	3C	51942	2–
46607	1–	47600	2–	49800	3–	51250	3C	51613	3B	51956	3C
46622	2–	47610	2–	49801	2–	51251	3C	51625	3C	51957	3B
46671	2–	48039	2–	49802	2–	51252	3C	51666	2B	51958	3C
46700	2–	48177	2–	49803	2–	51253	3C	51702	3C	51959	3C
46773	2–	48178	2–	49840	2–	51254	3C	51703	3C	51960	3C
46822	2–	48206	3–	49870	2–	51255	3C	51734	3C	51970	3C
46881	2–	48252	2–	49890	1–	51300	2B	51741	3A	51982	3B
46882	2–	48441	2–	49891	1–	51305	2B	51752	2B	51985	2–
46911	3–	48557	1–	49902	2–	51315	2B	51767	2B	51986	3B
46912	2–	48558	1–	49903	2–	51330	3B	51777	3B	51999	3B
46913	3–	48600	2–	49910	2–	51333	3C	51790	2B	52002	2C
46914	2–	48610	2–	49913	2B	51340	3B	51796	3B	52075	3B
46915	2–	48636	3B	49920	1–	51350	2A	51808	3C	52076	3B

Table 56.C.#3(ILTA) Increased Limits Table Assignments – Class Codes 45523 – 52076

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

<u>MANUAL PAGES</u>

REVISED INCREASED LIMITS TABLE ASSIGNMENTS

- **Class Codes 52109 – 59724**

Premises/Operations (Subline Code 334) And Products/Completed Operations (Subline Code 336) Increased Limits Table Assignments By Classification – $100/200 Basic Limit											
Class Code	IL Table	Class Code	IL Table	Class Code	IL Table	Class Code	IL Table	Class Code	IL Table	Class Code	IL Table
52109	2C	53333	3B	55597	3C	56808	3C	57809	3B	58756	3B
52134	2B	53374	2A	55647	3C	56900	3C	57810	3B	58757	3B
52137	3C	53375	2A	55648	3C	56910	3C	57871	3B	58759	3B
52150	2B	53376	2A	55649	3C	56911	3C	57913	2B	58802	3B
52315	2B	53377	2B	55715	3B	56912	3C	57997	3–	58813	3B
52341	3C	53403	2C	55716	3B	56913	3C	57998	3B	58822	3B
52342	3C	53425	3C	55717	3B	56915	3C	57999	3B	58837	3B
52343	3C	53565	2C	55718	3B	56916	3B	58009	3C	58840	3B
52401	3C	53631	3C	55802	3B	56917	3C	58010	3C	58873	3B
52402	3B	53632	3B	55918	3C	56918	3C	58020	3C	58903	3B
52432	3C	53731	3C	55919	3C	56919	3C	58056	3C	58904	3B
52433	3C	53732	3B	56040	3B	56920	3C	58057	3B	58922	3C
52435	3C	53733	3B	56041	3C	56980	3B	58058	3C	59005	3B
52438	3C	53734	2–	56042	3B	57001	2A	58095	3B	59057	2B
52440	3C	53803	3C	56170	3C	57002	2B	58096	3B	59058	3B
52467	3C	53901	3C	56171	3C	57090	3B	58301	3B	59188	3B
52469	2C	53902	3C	56202	3B	57146	3C	58302	3B	59189	3B
52505	3B	53903	3C	56390	3B	57202	3C	58397	3B	59223	3B
52547	3B	53904	3C	56391	3C	57257	3B	58408	2–	59257	3B
52581	3C	53905	3C	56427	2B	57401	3B	58409	2–	59306	3C
52619	2C	53907	2A	56488	2A	57403	2B	58456	2–	59378	3B
52660	2–	53951	2B	56567	3C	57410	3B	58457	2–	59481	3B
52744	3C	53952	2B	56650	3C	57411	3C	58458	2–	59482	3C
52767	3B	53953	3C	56651	3C	57572	2B	58459	2–	59537	3B
52876	3C	54012	2–	56652	3C	57600	3B	58503	3B	59601	3C
52911	2B	54077	3B	56653	3C	57611	3B	58532	3C	59647	2B
52967	3B	55010	3B	56654	3C	57625	2B	58559	3C	59660	3C
53001	3B	55011	3C	56690	3B	57651	3A	58560	3C	59661	3C
53077	3C	55012	3C	56699	3B	57690	3C	58561	2C	59693	2–
53095	3B	55013	3C	56758	2A	57716	3B	58575	3B	59695	3B
53096	2B	55014	3C	56759	2A	57725	3B	58627	2B	59701	3B
53121	3B	55214	3B	56760	2A	57726	3B	58663	3B	59713	3B
53147	3C	55371	2A	56805	3C	57798	3C	58682	3B	59722	2C
53229	3C	55410	3B	56806	3C	57800	3B	58713	3B	59723	2C
53271	3C	55426	3B	56807	3C	57808	3C	58737	3C	59724	3C

Table 56.C.#4(ILTA) Increased Limits Table Assignments – Class Codes 52109 – 59724

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

<u>MANUAL PAGES</u>

REVISED INCREASED LIMITS TABLE ASSIGNMENTS

● **Class Codes 59725 – 96317**

Premises/Operations (Subline Code 334) And Products/Completed Operations (Subline Code 336) Increased Limits Table Assignments By Classification – $100/200 Basic Limit											
Class Code	IL Table	Class Code	IL Table	Class Code	IL Table	Class Code	IL Table	Class Code	IL Table	Class Code	IL Table
59725	3C	59970	3B	63216	1–	91127	2C	91577	2B	92478	2B
59726	3B	59973	3C	63217	1–	91130	3–	91580	3–	92593	2–
59738	3B	59975	3C	63218	1–	91135	3B	91581	3B	92663	3–
59750	3C	59977	3C	63219	1–	91150	2B	91582	3C	93166	3B
59751	3B	59984	3B	63220	1–	91155	2B	91583	2B~~C~~	93167	3B
59773	2C	59985	3B	64074	2–	91160	2–	91584	3C	93169	3–
59774	2C	59986	3B	64075	1–	91175	2–	91585	3B~~C~~	94007	2B
59775	2C	59988	3B	64500	2–	91177	2–	91586	3C	94099	3–
59781	3C	59989	3B	65007	2–	91179	2–	91587	3B	94225	2–
59782	3C	60010	2–	66122	2–	91190	2C	91588	3B	94276	2B
59783	3B	60011	2–	66123	2–	91200	3–	91589	3B	94304	2C
59784	3B	60012	2–	66309	2–	91210	2–	91590	3–	94381	2B
59790	3C	60013	1–	66561	2–	91235	2B	91591	3B	94404	3C
59798	3C	60015	2–	67017	2–	91250	3B	91600	3–	94569	2A
59806	3C	60016	1–	67508	2–	91265	3C	91606	3–	94590	2–
59867	2C	60035	2–	67509	2–	91266	3C	91618	3C	94617	3–
59886	3B	61000	3–	67510	2–	91280	3B	91629	3B	94638	3–
59889	2B	61212	2–	67511	2–	91302	2B	91636	3–	95124	2A
59892	3C	61216	2–	67512	2–	91315	2–	91641	3C	95233	2–
59904	3A	61217	2–	67513	2–	91324	3C	91666	2B	95305	2–
59905	2A	61218	2–	67634	1–	91325	3C	91722	3B	95306	3–
59914	3B	61223	2–	67635	1–	91340	2B	91746	2B	95310	2B
59915	3B	61224	2–	68001	2–	91341	3B	91805	3–	95357	3–
59917	3B	61225	2–	68439	2–	91342	3B~~C~~	92053	2B	95358	3–
59923	3B	61226	2–	68500	2–	91343	2B	92054	2B	95410	2B
59925	2A	61227	2–	68604	2–	91405	2–	92055	2B	95455	3A
59926	2A	62000	2–	68606	2B	91436	2B	92101	2B	95487	3B
59927	2A	62001	1–	68607	2–	91481	2–	92102	2A	95505	3A
59931	3B	62002	2–	68702	2–	91507	2B	92215	2A	95620	2C
59932	3B	62003	1–	68703	2–	91523	2–	92338	3B	95625	2A
59941	3C	63010	2–	68706	2–	91547	2–	92445	3–	95630	3C
59947	3B	63011	2–	68707	2–	91551	2B	92446	2B	95647	2A~~B~~
59955	3C	63012	2–	90089	3–	91555	2A	92447	2B	95648	2B
59963	2B	63013	2–	91111	2A	91560	3B	92451	2B	96053	2A
59964	2B	63215	1–	91125	2B	91562	2–	92453	2–	96317	2–

Table 56.C.#5(ILTA) Increased Limits Table Assignments – Class Codes 59725 – 96317

INSURANCE SERVICES OFFICE, INC.

MARYLAND
GENERAL LIABILITY INCREASED LIMIT FACTORS

<u>MANUAL PAGES</u>

REVISED INCREASED LIMITS TABLE ASSIGNMENTS

- **Class Codes 96408 – 99988**

Premises/Operations (Subline Code 334) And Products/Completed Operations (Subline Code 336) Increased Limits Table Assignments By Classification – $100/200 Basic Limit											
Class Code	IL Table	Class Code	IL Table	Class Code	IL Table	Class Code	IL Table	Class Code	IL Table	Class Code	IL Table
96408	3B	98111	2–	98429	3–	99003	2A	99718	2–		
96409	2B	98150	3–	98430	2–	99004	2A	99746	2B		
96410	3A	98151	3–	98449	2B	99080	2A	99760	2–		
96611	2A	98152	3C	98482	2B	99081	2–	99777	1–		
96702	2C	98153	3C	98483	2A	99082	3–	99793	3–		
96703	3–	98154	3C	98502	3C	99083	3–	99798	3C		
96816	2–	98155	3C	98555	3–	99084	3B	99803	3C		
96872	3C	98156	3B	98597	2–	99085	3B	99826	2B		
96930	2–	98157	3C	98598	2–	99111	3–	99827	2B		
97002	3B	98158	3C	98601	2B	99160	3–	99851	2–		
97003	3B	98159	3C	98622	3–	99163	2B	99917	3–		
97047	1–	98160	3C	98623	3–	99165	2C	99938	3–		
97050	1–	98161	3C	98624	2–	99220	3B	99943	1–		
97111	2–	98162	3B	98636	2B	99221	3C	99946	2B		
97220	3C	98163	3C	98640	2–	99222	3B	99948	1A		
97221	3B	98164	3C	98658	3–	99223	3B	99952	3B		
97222	3C	98257	2–	98659	3B	99303	1–	99953	2B		
97223	3C	98303	3B	98677	2B	99310	2B	99954	2B		
97308	3–	98304	2A	98678	2B	99315	2B	99955	3B		
97447	3B	98305	2A	98698	3B	99321	2B	99963	3–		
97501	1–	98306	2B	98699	2B	99445	3C	99969	3C		
97502	1–	98307	2B	98705	3–	99471	3–	99975	2–		
97503	2–	98308	2B	98710	2–	99505	2–	99986	3–		
97504	2–	98309	3B	98751	3–	99506	2–	99987	3–		
97650	3A	98344	2A	98805	2A	99507	2–	99988	3–		
97651	3B	98405	2–	98806	1B	99570	3C				
97652	3B	98413	2C	98810	1–	99571	3C				
97653	3B	98414	3C	98813	2B	99572	3C				
97654	2B	98415	3C	98820	2A	99573	3C				
97655	3B	98423	2C	98871	3C	99600	2–				
98002	3B	98424	2C	98884	3B	99613	2A				
98003	3B	98425	2C	98914	3B	99614	2–				
98090	2–	98426	2B	98949	3B	99620	2–				
98091	2–	98427	2–	98967	3B	99650	2A				
98092	2–	98428	3–	98993	2C	99709	2B				

Table 56.C.#6(ILTA) Increased Limits Table Assignments – Class Codes 96408 – 99988