RULES – IMPLEMENTATION

NOVEMBER 2, 2018

GENERAL LIABILITY   LI-GL-2018-127

UTAH GENERAL LIABILITY INCREASED LIMIT FACTORS TO BE IMPLEMENTED; EXHIBITS NEWLY PRESENTED IN EXCEL

KEY MESSAGE

The revised increased limit factors represent a combined change of +1.3% from the increased limit factors currently in effect.

BACKGROUND

In circular LI-GL-2018-021, we provided you with information about the General Liability increased limit experience review.

ISO ACTION

We are implementing GL-2018-IALL1, which revises the increased limits for all 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

Change in Format

This circular offers several enhancements for customers. In addition to the PDF version, exhibits are now available in user-friendly Excel format rather than Word. Where possible, exhibits are linked together formulaically to clarify how calculations flow through the analysis and to enable customers to test the effects of different assumptions on the results.

To facilitate this change, the filing has been restructured. All explanatory text, for all sections of the filing, appears first; all exhibits are grouped together and appear thereafter. Exhibits have been labeled as Exhibit 1, Exhibit 2, etc., with the manual rule page exhibit labeled as Exhibit MP. Exhibits MP is provided in a separate Word file while the other exhibits are available in an Excel file. We invite customers to share feedback on this revised format and suggestions for further enhancements by contacting the individuals listed in the Contact Information block.

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 this state group, the indicated increased limit factors are on average 5.0% higher for Premise/Operations and 10.0% higher for Products/Completed Operations 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 multiplies. Specifically, assuming industrywide averages and the ISO increased limit factors in this document, the inclusion of risk load may result in additional revenue of 5.0% for Premises/Operations Liability and 10.0% 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 written on or after March 1, 2019.

COMPANY ACTION

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

- To use our revision and effective date, you are not required to file anything with the Insurance Department.

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

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

WE WILL SUBMIT THIS REVISION TO THE INSURANCE DEPARTMENT ON JANUARY 26, 2019. IF STATE FILING REQUIREMENTS DICTATE THAT YOU MAKE A SUBMISSION WITH THE INSURANCE DEPARTMENT, DO NOT SUBMIT IT PRIOR TO THIS DATE.

In all correspondence with the Insurance Department on this revision, you should refer to ISO Filing Designation Number GL-2018-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-2017-074 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 3-19 (or the earliest possible subsequent date), along with any new and/or revised manual pages.

REFERENCE(S)

- LI-GL-2018-021 (03/16/2018) 2018 General Liability Increased Limits Experience Reviewed By Staff

- LI-CL-2017-074 (11/20/2017) 2018 Revised Lead Time Requirements Listing

ATTACHMENT(S)

Filing GL-2018-IALL1

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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, David Terné, am a Managing Director of Stategic Actuarial Operations for ISO and I, James Davidson, am an Actuarial Product Director for Commercial Auto and 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

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

INSURANCE SERVICES OFFICE, INC.

UTAH
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 +2.0% change on average from the Premises/Operations increased limit factors currently in effect and a -1.3% change on average from the Products/Completed Operations increased limit factors currently in effect. The General Liability combined effect is +1.3%.

- revises increased limit factors for Premises/Operations Governmental Units (Table 56.B.8).

- provides the analyses used to derive these increased limit factors.

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.

INSURANCE SERVICES OFFICE, INC.

UTAH
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	0.0%	0.0%	Table A	+0.7%	+0.7%
Table 2	+3.9%	+3.9%	Table B	-1.9%	-1.9%
Table 3	-1.6%	-1.6%	Table C	-1.1%	-1.1%
TOTAL	+2.0%	+2.0%	TOTAL	-1.3%	-1.3%
General Liability Combined				Indicated	Selected
				+1.3%	+1.3%

The overall General Liability change of +1.3% 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 0.7957 and 0.2043 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 in order to maintain consistency between successive policy limits within each table.

MIXED
NEGATIVE
BINOMIAL
FREQUENCY

To enhance the accuracy of occurrence counts per policy used in simulations (to determine occurrence/aggregate ILFs), we now use a 'mixed negative binomial' frequency model, instead of the single negative binomial model used previously. Please see the explanatory material and supporting exhibits in this document, for details on this updated model and for the specific parameters used.

PRIOR ISO
REVISIONS

The most recent General Liability increased limits revision of Premises/Operations Tables 1-3 and Products/Completed Operations Tables A-C is:

	Premises/Operations	Products/Completed Operations
Designation	GL-2014-IALL1	GL-2014-IALL1
Date Implemented	03/01/2015	03/01/2015
Indicated Change	-0.6%	0.0%
Selected Change	-0.6%	0.0%
Implemented Change	-0.6%	0.0%

We last revised Premises/Operations Governmental Subdivisions increased limit factors in filing GL-2014-IGOV1, implemented on October 1, 2014, and last updated policy limit amounts in the related rule in filing GL-2016-IGOV1, implemented on March 1, 2017.

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

EXECUTIVE SUMMARY

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 5.0% higher for Premises/Operations and 10.0% higher for Products/Completed Operations than such factors would be if calculated without risk load.

GOVERNMENTAL
SUBDIVISIONS
INCREASED
LIMITS FACTORS

For Premises/Operations, the applicable General Liability classes for governmental units/political subdivisions are as follows:

44100 - Government Subdivisions- Not State Or Federal - Municipality Population Under 2,500

44101 - Government Subdivisions- Not State Or Federal - Municipality Population 2,501-10,000

44102 - Government Subdivisions- Not State Or Federal - Municipality Population 10,001-25,000

44103 - Government Subdivisions- Not State Or Federal - Municipality Population 25,001-50,000

44104 - Government Subdivisions- Not State Or Federal - Municipality Population 50,001-100,000

44105 - Government Subdivisions - Not State Or Federal - Municipality Population 100,001 - 250,000

44106 - Government Subdivisions - Not State Or Federal - Municipality Population Over 250,000

44108 - Government Subdivisions- Not State, Federal - Counties Or Parishes Population Under 10,000

44109 - Government Subdivisions- Not State, Federal - Counties Or Parishes Population 10,001-25,000

44110 - Government Subdivisions- Not State, Federal - Counties Or Parishes Population 25,001-50,000

44111 - Government Subdivisions- Not State, Federal - Counties Or Parishes Population 50,001-100,000

44112 - Government Subdivisions- Not State, Federal - Counties Or Parishes Population 100,001-250,000

44113 - Government Subdivisions - Not State Or Federal - County Or Parish Population Over 250,000

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

EXECUTIVE SUMMARY

GOVERNMENTAL
SUBDIVISIONS
INCREASED
LIMITS FACTORS
(Continued)

Data for all Governmental Subdivision classes was combined when determining the governmental units/political subdivisions factors shown in Rule 56.B.8. We then applied the Mixed Exponential Methodology to the data from these classes to determine the increased limit factors. The Mixed Exponential Methodology is described in more detail in Sections B. Note that this data was reviewed on a multistate basis (whereas most Premises/Operations data is reviewed on a state group basis).

Separate factors are <u>not</u> provided by table, as governmental subdivision class data not assigned to Premises/Operations tables is used directly.

We also are revising the policy limits in Rule 56.B.8. UTAH CODE ANN Section 63G-7-604 limits the liability of governmental units and political subdivisions. The limitation on awards for liability is adjusted each even-numbered year in accordance with information published by the Department of Labor. The liability limits have been revised as follows for incidents occurring on or after July 1, 2018:

> The limit for all personal injury sustained by one person as the result of any one occurrence was increased to $745,200, the limit for all property damage arising out of any one occurrence to $295,000 and the aggregate limit for all individual claims arising out of any one occurrence to $2,552,000.

Our revision of Rule 56.B.8 reflects these updated policy limits, displaying them in the rule in thousands as $746, $295, and $2,552, respectively.

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UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

EXECUTIVE SUMMARY
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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, 2003 to December 31, 2016, which were settled during calendar years 2012 to 2016.

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 Utah in State Group B, which includes Arkansas, Colorado, Connecticut, Delaware, the District of Columbia, Missouri, New Hampshire, New Mexico, Oklahoma, Oregon, South Carolina and Utah.

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.

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

EXECUTIVE SUMMARY

EFFECT ON MANUAL PAGES	Upon implementation of this filing, which revises Premises/Operations and Products/Completed Operations increased limit factors, 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, 56.B.6 and 56.B.8.
CHANGE IN FORMAT	In this filing, all explanatory material appears first, followed by all exhibits. Explanatory pages are numbered B-1 through B-23, while exhibits are labeled Exhibit 1 through Exhibit 25 and manual page reproductions are provided in Exhibit MP.
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.

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

TABLE OF CONTENTS

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

SCOPE OF REVISION

SUMMARY OF INCREASED LIMIT FACTOR CHANGES	**Exhibits 1 and 2** (*Summary of Increased Limit Factor Changes*) provides 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 last page of the exhibit shows revised Governmental Subdivisions increased limit factors (in compliance with Utah Stat. Section 63G-7-604) as they will appear in Table 56.B.8 of the manual. Our review of these factors is based on the same experience period as the other Premises/Operations classes.

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.

UTAH
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 5-12**. We reflect the aggregate policy limit by combining the indemnity severity distribution (determined from the parameters provided in **Exhibits 16 and 17**) to model the loss size, and the updated mixed negative binomial distribution (discussed below) to model the number of occurrences. We use the frequency model to simulate occurrence counts (for a large number of simulated policies), and the severity model to generate the losses for the simulated occurrences. This combined distribution produces limited losses at various combinations of occurrence and aggregate limits.

In past General Liability increased limits reviews, we used a single negative binomial distribution to model the number of occurrences for each simulated policy. In this review, we employ a weighted mixture of negative binomial distributions for this purpose, to enhance accuracy in predicting the frequency of policies having higher numbers of occurrences.

The probability of k claims 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 claims 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 25 shows the frequency parameters for Premises/Operations and Products/Completed Operations, determined on a multistate basis.

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

OVERVIEW
OF INCREASED
LIMIT FACTOR
CALCULATIONS

This overview describes the methods we use to calculate increased limit factors. The factors calculated here are for policies that are subject to occurrence limits, but not annual aggregate limits. Section A describes the aggregate model and provides the resulting occurrence/aggregate increased limit factors. The per-occurrence loss distributions and loss adjustment expense provisions that are described here (and in later sections) are key components of this aggregate model. 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).

UTAH
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 model 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 though 12 *(Calculation of Indicated Increased Limit Factors)* show the indicated occurrence-limit increased limit factors for each of the increased limits tables from ISO's 2018 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. Data for the separate Governmental Subdivisions class analysis is reviewed on a multistate basis. 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 states; State Group C is comprised of the highest ILF states; and State Group B contains the remainder of the states.

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 section later in this document.

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

STATE GROUPS (continued)	For Premises/Operations, this state is reviewed in State Group B, which includes Arkansas, Colorado, Connecticut, Delaware, the District of Columbia, Missouri, New Hampshire, New Mexico, Oklahoma, Oregon, South Carolina and Utah.

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/Operation 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 modeled using loss data reported to ISO under the Commercial Statistical Plan. 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, 2003 and December 31, 2016, and average payment dates between January 1, 2012 and December 31, 2016. The data is evaluated as of March 31, 2017.

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.

INSURANCE SERVICES OFFICE, INC.

SUPPORTING MATERIAL

COMPOSITE-
RATED RISKS

Insurers report composite-rated risk (CRR) data to ISO without detailed class information. This means we cannot use class to assign CRR data to a specific table where tables are used in our analysis. However, a significant portion of our data is composite-rated; for this reason, and to enhance credibility, we include CRR data in our calculation of increased limit factors. Using the accident year, payment lag and indemnity amount of a given CRR occurrence, we can make a Bayesian estimate of the probability it belongs in each table based on its known characteristics.

We include CRR data in the analysis by assigning part of each such occurrence to the various tables using this Bayesian analysis. Thus, we might consider a single $100,000 occurrence from a composite-rated Premises/Operations Liability risk 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.

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 CRR data.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

MIXED
EXPONENTIAL
MODEL

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 model 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.

5. Combining State Group data with State Group Complement data
Credibility-weighting the Premises/Operations state group experience with the experience of the corresponding state group complement.

6. Fitting a Mixed Exponential Distribution
Fitting a mixed exponential model to the empirical survival distribution.

7. Final Limited Average Severities
Using the fitted mixed exponential distribution to generate limited average severities.

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

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 results in a $100,000 paid claim in 2017 should cost 1.04 x $100,000 in 2018. 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, 2019, one year beyond the assumed effective date of December 1, 2018. In this filing, we select an annual trend of +5.5% for both Premises/Operations and Products/Completed Operations. This compares to trends of +5.0% for Premises/Operations and +6.5% for Products/Completed Operations in the most recently filed, 2014 increased limits review.

We selected annual severity trend factors 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 13 (*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.

CONSTRUCTION
OF THE
EMPIRICAL
SURVIVAL
DISTRIBUTIONS

The construction of the empirical survival distributions is based on the Product-Limit Estimator described in Loss Models: From Data to Decisions[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.

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

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

CONSTRUCTION OF THE EMPIRICAL SURVIVAL DISTRIBUTIONS (continued)

This procedure allows for the easy inclusion of censored losses as well as excess, umbrella and deductible data. Two conditions must be met in order for a particular 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.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

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:
$CSP_{e1}(10,000 \mid 0) =$ $P(X \geq 10,000 \mid X > 0)$	$PL + AP \geq 10,000$ $AP = 0$
$CSP_{e1}(20,000 \mid 10,000) =$ $P(X \geq 20,000 \mid X \geq 10,000)$	$PL + AP \geq 20,000$ $AP \leq 10,000$
$CSP_{e1}(40,000 \mid 20,000)$ $P(X \geq 40,000 \mid X \geq 20,000)$	$PL + AP \geq 40,000$ $AP \leq 20,000$

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

Calculation of Conditional Survival Probability at $10,000

$CSP_{e1}(10,000 \mid 0) = P(X \geq 10,000 \mid X > 0) =$ 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.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

Calculation of Conditional Survival Probability at $20,000

$CSP_{e1}\,(20{,}000 \mid 10{,}000) = P(X \geq 20{,}000 \mid X \geq 10{,}000) =$	number of occurrences with: occurrence size + AP $\geq$ 20,000, <u>policy limit + AP $\geq$ 20,000, and AP $\leq$ 10,000</u> number of occurrences with: occurrence size + AP $\geq$ 10,000, policy limit + AP $\geq$ 20,000, and AP $\leq$ 10,000 = <u>3 (occurrences 7, 10, 11) </u> = 6 (occurrences 4, 6, 7, 9, 10, 11)

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

$CSP_{e1}\,(40{,}000 \mid 20{,}000) = P(X \geq 40{,}000 \mid X \geq 20{,}000) =$	number of occurrences with: occurrence size + AP $\geq$ 40,000, <u>policy limit + AP $\geq$ 40,000, and AP $\leq$ 20,000</u> number of occurrences with: occurrence size + AP $\geq$ 20,000, policy limit + AP $\geq$ 40,000, and AP $\leq$ 20,000 = <u>1 (occurrence 12) </u> = 4 (occurrences 8, 10, 11, 12)

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:

$S_{e1}\,(10{,}000) = P(X \geq 10{,}000) = CSP_{e1}\,(10{,}000 \mid 0) = P(X \geq 10{,}000 \mid X > 0)$
$\qquad = 6/9$

$S_{e1}\,(20{,}000) = P(X \geq 20{,}000) = CSP_{e1}\,(10{,}000 \mid 0) * CSP_{e1}\,(20{,}000 \mid 10{,}000)$
$\qquad = P(X \geq 10{,}000 \mid X > 0) * P(X \geq 20{,}000 \mid X \geq 10{,}000)$
$\qquad = 6/9 * 3/6 = 1/3$

$S_{e1}\,(40{,}000) = P(X \geq 40{,}000) = CSP_{e1}\,(10{,}000 \mid 0) * CSP_{e1}\,(20{,}000 \mid 10{,}000) * CSP_{e1}\,(40{,}000 \mid 20{,}000)$
$\qquad = P(X \geq 10{,}000 \mid X > 0) * P(X \geq 20{,}000 \mid X \geq 10{,}000) * P(X \geq 40{,}000 \mid X \geq 20{,}000)$
$\qquad = 6/9 * 3/6 * 1/4 = 1/12$

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.

INSURANCE SERVICES OFFICE, INC.

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 model 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 model, 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 model, 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.

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

PAYMENT LAG
DISTRIBUTION

The payment lag distribution is modeled 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 model 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. A non-CRR 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.

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

| METHOD OF ESTIMATION: PAYMENT LAG PARAMETERS (continued) | For a 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 CRR occurrence generates several probabilities, one for each table. These probabilities are treated as fractional occurrences in the likelihood function.

Exhibits 14 and 15 *(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 B'	1,600,000	3,000,000	900,000
Products CW	3,000,000	2,250,000	1,200,000

We also selected truncation points for the Governmental Subdivisions analysis of $400,000 for BI and $150,000 for PD.

Then we select a parametric curve family that successfully models 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.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

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

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

FITTING A MIXED
EXPONENTIAL
DISTRIBUTION

ISO models the lag-weighted empirical survival distribution function for each table with the best fitting mixed exponential distribution. 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.

INSURANCE SERVICES OFFICE, INC.

UTAH
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 model 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 (model 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 is allowed to 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.

Exhibits 16 and 17 (*Parameters for Mixed Exponential Distribution)* 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 12**) 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. **Exhibits 16 and 17** (*Parameters for Mixed Exponential Distributions)* shows the individual by-table severity parameters used in this formula for each increased limits table.

Exhibits 18 through 20 (*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. |

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

BAYESIAN ANALYSIS

As stated, we utilize a Bayesian approach to allocate 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.

INSURANCE SERVICES OFFICE, INC.

SUPPORTING MATERIAL

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 MODEL

We allocate 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 CRR data. These counts are the raw data for our probability-of-payment-lag model.

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

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

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 model.

In order 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 in order 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.

Exhibits 21 and 22 (*Calculation of Allocated Loss Adjustment Expense per Occurrence*) show the calculation of the allocated loss adjustment expense components. Please note that for Governmental Subdivisions, we determine one ALAE ratio applicable to both BI and PD.

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

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

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 model 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 model 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 1.050 and 1.100 for Premises/Operations and Products/Completed Operations Liability, respectively.

Exhibit 24 *(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

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

<u>SUPPORTING MATERIAL</u>

RISK LOAD FORMULAS AND PARAMETERS

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

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:

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

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

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

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

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

INSURANCE SERVICES OFFICE, INC.

UTAH
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.

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.

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

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.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

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

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 $\lambda \times 2 \times (\mathbf{V}^c \cdot \overline{\mathbf{n}}^c + \mathbf{V}^a \cdot \overline{\mathbf{n}}^a)$.

Evaluation of $\mathbf{V}^c$

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.

Evaluation of $\mathbf{V}^a$

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.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUPPORTING MATERIAL

SUMMARY   In summary, we calculate limited average severities from a continuous model of occurrence size. In this model, 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.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUMMARY OF INDICATED CHANGES

PREMISES/OPERATIONS LIABILITY
STATE GROUP B

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	0.0003	1.00	1.00	0.0%	1.00	0.0%
200	0.0007	1.15	1.16	0.9%	1.16	0.9%
250	0.0000	1.20	1.21	0.8%	1.21	0.8%
300	0.0025	1.23	1.25	1.6%	1.25	1.6%
500	0.0081	1.33	1.34	0.8%	1.34	0.8%
750	0.0000	1.40	1.40	0.0%	1.40	0.0%
1,000	0.9355	1.45	1.45	0.0%	1.45	0.0%
1,500	0.0012	1.51	1.51	0.0%	1.51	0.0%
2,000	0.0464	1.56	1.56	0.0%	1.56	0.0%
3,000	0.0006	1.63	1.63	0.0%	1.63	0.0%
5,000	0.0037	1.72	1.72	0.0%	1.72	0.0%
10,000	0.0010	1.86	1.85	-0.5%	1.85	-0.5%
TOTAL	1.0000	1.455	1.455	0.0%	1.455	0.0%

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	0.0005	1.00	1.00	0.0%	1.00	0.0%
200	0.0000	1.17	1.19	1.7%	1.19	1.7%
250	0.0000	1.23	1.25	1.6%	1.25	1.6%
300	0.0021	1.27	1.30	2.4%	1.30	2.4%
500	0.0089	1.41	1.45	2.8%	1.45	2.8%
750	0.0001	1.52	1.57	3.3%	1.57	3.3%
1,000	0.9374	1.60	1.66	3.7%	1.66	3.7%
1,500	0.0028	1.71	1.79	4.7%	1.79	4.7%
2,000	0.0437	1.79	1.88	5.0%	1.88	5.0%
3,000	0.0000	1.91	2.03	6.3%	2.03	6.3%
5,000	0.0041	2.07	2.24	8.2%	2.24	8.2%
10,000	0.0004	2.32	2.56	10.3%	2.56	10.3%
TOTAL	1.0000	1.608	1.670	3.9%	1.670	3.9%

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUMMARY OF INDICATED CHANGES

PREMISES/OPERATIONS LIABILITY
STATE GROUP B

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	0.0026	1.00	1.00	0.0%	1.00	0.0%
200	0.0000	1.20	1.20	0.0%	1.20	0.0%
250	0.0013	1.28	1.28	0.0%	1.28	0.0%
300	0.0006	1.34	1.34	0.0%	1.34	0.0%
500	0.0055	1.54	1.53	-0.6%	1.53	-0.6%
750	0.0002	1.72	1.70	-1.2%	1.70	-1.2%
1,000	0.9253	1.85	1.82	-1.6%	1.82	-1.6%
1,500	0.0009	2.03	2.01	-1.0%	2.01	-1.0%
2,000	0.0561	2.17	2.14	-1.4%	2.14	-1.4%
3,000	0.0003	2.36	2.34	-0.8%	2.34	-0.8%
5,000	0.0048	2.63	2.61	-0.8%	2.61	-0.8%
10,000	0.0024	3.06	3.05	-0.3%	3.05	-0.3%
TOTAL	1.0000	1.870	1.840	-1.6%	1.840	-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	0.2284	1.455	1.455	0.0%	1.455	0.0%
Table 2	0.6000	1.608	1.670	3.9%	1.670	3.9%
Table 3	0.1716	1.870	1.840	-1.6%	1.840	-1.6%
TOTAL	1.0000	1.618	1.650	2.0%	1.650	2.0%

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

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

SUMMARY OF INDICATED 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	0.0009	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	1.18	1.18	0.0%	1.18	0.0%
300	0.0051	1.21	1.22	0.8%	1.22	0.8%
500	0.0118	1.32	1.33	0.8%	1.33	0.8%
750	0.0002	1.41	1.42	0.7%	1.42	0.7%
1,000	0.9122	1.47	1.48	0.7%	1.48	0.7%
1,500	0.0000	1.57	1.58	0.6%	1.58	0.6%
2,000	0.0506	1.64	1.64	0.0%	1.64	0.0%
3,000	0.0041	1.73	1.74	0.6%	1.74	0.6%
5,000	0.0150	1.85	1.88	1.6%	1.88	1.6%
10,000	0.0001	2.05	2.11	2.9%	2.11	2.9%
TOTAL	1.0000	1.482	1.492	0.7%	1.492	0.7%

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	0.0000	1.00	1.00	0.0%	1.00	0.0%
200	0.0000	1.17	1.17	0.0%	1.17	0.0%
250	0.0000	1.23	1.23	0.0%	1.23	0.0%
300	0.0051	1.28	1.28	0.0%	1.28	0.0%
500	0.0107	1.43	1.41	-1.4%	1.41	-1.4%
750	0.0000	1.55	1.53	-1.3%	1.53	-1.3%
1,000	0.9286	1.64	1.61	-1.8%	1.61	-1.8%
1,500	0.0000	1.77	1.74	-1.7%	1.74	-1.7%
2,000	0.0460	1.87	1.83	-2.1%	1.83	-2.1%
3,000	0.0043	2.00	1.97	-1.5%	1.97	-1.5%
5,000	0.0028	2.17	2.15	-0.9%	2.15	-0.9%
10,000	0.0025	2.43	2.42	-0.4%	2.42	-0.4%
TOTAL	1.0000	1.652	1.621	-1.9%	1.621	-1.9%

Utah   GL-2018-IALL1   Exhibit 2

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

<u>SUMMARY OF INDICATED CHANGES</u>

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	0.0000	1.00	1.00	0.0%	1.00	0.0%
200	0.0000	1.20	1.20	0.0%	1.20	0.0%
250	0.0073	1.28	1.28	0.0%	1.28	0.0%
300	0.0023	1.34	1.35	0.7%	1.35	0.7%
500	0.0015	1.55	1.54	-0.6%	1.54	-0.6%
750	0.0000	1.73	1.72	-0.6%	1.72	-0.6%
1,000	0.9350	1.87	1.85	-1.1%	1.85	-1.1%
1,500	0.0000	2.07	2.04	-1.4%	2.04	-1.4%
2,000	0.0472	2.20	2.18	-0.9%	2.18	-0.9%
3,000	0.0045	2.39	2.37	-0.8%	2.37	-0.8%
5,000	0.0021	2.63	2.61	-0.8%	2.61	-0.8%
<u>10,000</u>	<u>0.0001</u>	<u>2.99</u>	<u>2.98</u>	<u>-0.3%</u>	<u>2.98</u>	<u>-0.3%</u>
TOTAL	1.0000	1.884	1.864	-1.1%	1.864	-1.1%

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	0.1514	1.482	1.492	0.7%	1.492	0.7%
Table B	0.5365	1.652	1.621	-1.9%	1.621	-1.9%
<u>Table C</u>	<u>0.3121</u>	<u>1.884</u>	<u>1.864</u>	<u>-1.1%</u>	<u>1.864</u>	<u>-1.1%</u>
TOTAL	1.0000	1.699	1.677	-1.3%	1.677	-1.3%

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	0.7957	1.618	1.650	2.0%	1.650	2.0%
<u>Products</u>	<u>0.2043</u>	<u>1.699</u>	<u>1.677</u>	<u>-1.3%</u>	<u>1.677</u>	<u>-1.3%</u>
TOTAL	1.0000	1.635	1.656	1.3%	1.656	1.3%

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

Utah   GL-2018-IALL1   Exhibit 2

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

COMPARISON OF CURRENT AND REVISED
OCCURRENCE/AGGREGATE INCREASED LIMIT FACTORS

Premises/Operations Liability

		(1)	(2)	(3)
Table	Policy Limit ($,000) (Occurrence/ Aggregate)	Current Factor (100/200 Basic Limit)	Revised Factor (100/200 Basic Limit)	[(2)-(1)]/(1) Percent Change
1	300/600	1.22	1.25	2.5%
	500/1000	1.32	1.34	1.5%
	1000/2000	1.43	1.44	0.7%
	2000/4000	1.55	1.57	1.3%
2	300/600	1.27	1.31	3.1%
	500/1000	1.40	1.46	4.3%
	1000/2000	1.59	1.67	5.0%
	2000/4000	1.79	1.91	6.7%
3	300/600	1.34	1.35	0.7%
	500/1000	1.54	1.55	0.6%
	1000/2000	1.84	1.84	0.0%
	2000/4000	2.17	2.18	0.5%

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

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

COMPARISON OF CURRENT AND REVISED
OCCURRENCE/AGGREGATE INCREASED LIMIT FACTORS

Products/Completed Operations Liability

Table	Policy Limit ($,000) (Occurrence/ Aggregate)	(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	1.21	0.0%
	500/1000	1.31	1.32	0.8%
	1000/2000	1.46	1.46	0.0%
	2000/4000	1.63	1.63	0.0%
B	300/600	1.29	1.27	-1.6%
	500/1000	1.44	1.41	-2.1%
	1000/2000	1.64	1.60	-2.4%
	2000/4000	1.89	1.82	-3.7%
C	300/600	1.36	1.35	-0.7%
	500/1000	1.58	1.55	-1.9%
	1000/2000	1.91	1.84	-3.7%
	2000/4000	2.26	2.19	-3.1%

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

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

CALCULATION OF INDICATED INCREASED LIMIT FACTORS

PREMISES/OPERATIONS LIABILITY
STATE GROUP B

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	12,727	6,295	1,617	157	165	1.00	1.00
200	15,691	6,295	1,869	319	205	1.16	1.16
250	16,518	6,295	1,939	387	216	1.21	1.21
300	17,137	6,295	1,992	450	224	1.25	1.25
500	18,670	6,295	2,122	667	245	1.34	1.34
750	19,741	6,295	2,213	903	260	1.40	1.40
1,000	20,431	6,295	2,272	1,116	269	1.45	1.45
1,500	21,314	6,295	2,347	1,499	281	1.51	1.51
2,000	21,887	6,295	2,395	1,849	288	1.56	1.56
2,500	22,299	6,295	2,430	2,173	294	1.60	1.60
3,000	22,612	6,295	2,457	2,473	298	1.63	1.63
4,000	23,059	6,295	2,495	3,015	304	1.68	1.68
5,000	23,369	6,295	2,521	3,500	309	1.72	1.72
10,000	24,163	6,295	2,589	5,465	319	1.85	1.85

[a] Reflects trend to prospective average accident date of December 1, 2019 and development to ultimate maturity.

[b] Reflects only per-occurrence limitation. Derived by taking the ratio of columns [(2) + (3) + (4) + (6) + (7)] at the policy limit to columns [(2) + (3) + (4) + (6) + (7)] at the basic limit ($100,000).

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

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

CALCULATION OF INDICATED INCREASED LIMIT FACTORS

PREMISES/OPERATIONS LIABILITY
STATE GROUP B

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	17,644	10,804	2,418	249	391	1.00	1.00
200	22,768	10,804	2,854	542	508	1.19	1.19
250	24,385	10,804	2,991	682	546	1.25	1.25
300	25,689	10,804	3,102	817	576	1.30	1.30
500	29,339	10,804	3,412	1,349	660	1.45	1.45
750	32,254	10,804	3,660	2,005	727	1.57	1.57
1,000	34,253	10,804	3,830	2,631	774	1.66	1.66
1,500	36,880	10,804	4,053	3,787	835	1.79	1.79
2,000	38,629	10,804	4,202	4,865	876	1.88	1.88
2,500	39,944	10,804	4,314	5,907	906	1.96	1.96
3,000	40,992	10,804	4,403	6,920	931	2.03	2.03
4,000	42,565	10,804	4,536	8,840	968	2.15	2.15
5,000	43,685	10,804	4,632	10,599	995	2.24	2.24
10,000	46,499	10,804	4,871	17,564	1,062	2.56	2.56

[a] Reflects trend to prospective average accident date of December 1, 2019 and development to ultimate maturity.

[b] Reflects only per-occurrence limitation. Derived by taking the ratio of columns [(2) + (3) + (4) + (6) + (7)] at the policy limit to columns [(2) + (3) + (4) + (6) + (7)] at the basic limit ($100,000).

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

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

CALCULATION OF INDICATED INCREASED LIMIT FACTORS

PREMISES/OPERATIONS LIABILITY
STATE GROUP B

TABLE 3

(1)	(2)[a]	(3)	(4)	(5)	(6)	(7)[b]	(8)
Policy Limit ($,000)	Limited Average Severity	ALAE per Occurrence	ULAE per Occurrence	Process Risk Load	Parameter Risk Load	Indicated Increased Limit Factor	Selected Increased Limit Factor
100	20,286	16,324	3,112	309	588	1.00	1.00
200	27,316	16,324	3,709	723	793	1.20	1.20
250	29,774	16,324	3,918	939	865	1.28	1.28
300	31,855	16,324	4,095	1,160	926	1.34	1.34
500	38,024	16,324	4,620	2,077	1,106	1.53	1.53
750	43,116	16,324	5,052	3,240	1,255	1.70	1.70
1,000	46,684	16,324	5,356	4,372	1,360	1.82	1.82
1,500	51,488	16,324	5,764	6,509	1,501	2.01	2.01
2,000	54,658	16,324	6,033	8,479	1,594	2.14	2.14
2,500	56,944	16,324	6,228	10,302	1,662	2.25	2.25
3,000	58,695	16,324	6,377	12,005	1,713	2.34	2.34
4,000	61,257	16,324	6,594	15,149	1,789	2.49	2.49
5,000	63,096	16,324	6,751	18,050	1,843	2.61	2.61
10,000	68,048	16,324	7,172	30,419	1,989	3.05	3.05

[a] Reflects trend to prospective average accident date of December 1, 2019 and development to ultimate maturity.

[b] Reflects only per-occurrence limitation. Derived by taking the ratio of columns [(2) + (3) + (4) + (6) + (7)] at the policy limit to columns [(2) + (3) + (4) + (6) + (7)] at the basic limit ($100,000).

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

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

CALCULATION OF INDICATED INCREASED LIMIT FACTORS

PREMISES/OPERATIONS LIABILITY
MULTISTATE

GOVERNMENTAL SUBDIVISIONS, BODILY INJURY

(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	25,727	25,262	4,334	407	274	1.00	1.00
200	32,246	25,262	4,888	798	362	1.13	1.13
250	34,260	25,262	5,059	978	388	1.18	1.18
300	35,917	25,262	5,200	1,156	408	1.21	1.21
500	40,635	25,262	5,601	1,861	468	1.32	1.32
750	44,216	25,262	5,906	2,679	519	1.40	1.40
1,000	46,509	25,262	6,101	3,406	553	1.46	1.46
1,500	49,368	25,262	6,344	4,674	595	1.54	1.54
2,000	51,188	25,262	6,498	5,803	621	1.60	1.60
2,500	52,500	25,262	6,610	6,848	640	1.64	1.64
3,000	53,508	25,262	6,695	7,827	654	1.68	1.68
4,000	54,981	25,262	6,821	9,631	676	1.74	1.74
5,000	56,034	25,262	6,910	11,289	691	1.79	1.79
10,000	58,883	25,262	7,152	18,405	733	1.97	1.97

[a] Reflects trend to prospective average accident date of December 1, 2019 and development to ultimate maturity.

[b] Reflects only per-occurrence limitation. Derived by taking the ratio of columns [(2) + (3) + (4) + (6) + (7)] at the policy limit to columns [(2) + (3) + (4) + (6) + (7)] at the basic limit ($100,000).

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

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

CALCULATION OF INDICATED INCREASED LIMIT FACTORS

PREMISES/OPERATIONS LIABILITY
MULTISTATE

GOVERNMENTAL SUBDIVISIONS, PROPERTY DAMAGE

(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	4,702	3,428	691	38	23	1.00	1.00
200	5,299	3,428	742	69	26	1.08	1.08
250	5,469	3,428	756	83	27	1.10	1.10
300	5,598	3,428	767	95	28	1.12	1.12
500	5,911	3,428	794	138	30	1.16	1.16
750	6,121	3,428	812	183	31	1.19	1.19
1,000	6,251	3,428	823	223	32	1.21	1.21
1,500	6,413	3,428	836	292	33	1.24	1.24
2,000	6,513	3,428	845	353	34	1.26	1.26
2,500	6,584	3,428	851	408	34	1.27	1.27
3,000	6,638	3,428	856	459	34	1.29	1.29
4,000	6,715	3,428	862	553	35	1.31	1.31
5,000	6,770	3,428	867	638	35	1.32	1.32
10,000	6,912	3,428	879	989	36	1.38	1.38

[a] Reflects trend to prospective average accident date of December 1, 2019 and development to ultimate maturity.

[b] Reflects only per-occurrence limitation. Derived by taking the ratio of columns [(2) + (3) + (4) + (6) + (7)] at the policy limit to columns [(2) + (3) + (4) + (6) + (7)] at the basic limit ($100,000).

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

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

CALCULATION OF INDICATED 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	12,350	7,722	1,706	167	1,432	1.00	1.00
200	14,917	7,722	1,924	320	1,732	1.14	1.14
250	15,731	7,722	1,994	392	1,827	1.18	1.18
300	16,385	7,722	2,049	462	1,903	1.22	1.22
500	18,212	7,722	2,204	733	2,117	1.33	1.33
750	19,687	7,722	2,330	1,068	2,289	1.42	1.42
1,000	20,714	7,722	2,417	1,392	2,409	1.48	1.48
1,500	22,052	7,722	2,531	1,984	2,566	1.58	1.58
2,000	22,910	7,722	2,604	2,515	2,666	1.64	1.64
2,500	23,534	7,722	2,657	3,011	2,739	1.70	1.70
3,000	24,024	7,722	2,698	3,486	2,797	1.74	1.74
4,000	24,763	7,722	2,761	4,390	2,883	1.82	1.82
5,000	25,301	7,722	2,807	5,236	2,946	1.88	1.88
10,000	26,738	7,722	2,929	8,817	3,115	2.11	2.11

[a] Reflects trend to prospective average accident date of December 1, 2019 and development to ultimate maturity.

[b] Reflects only per-occurrence limitation. Derived by taking the ratio of columns [(2) + (3) + (4) + (6) + (7)] at the policy limit to columns [(2) + (3) + (4) + (6) + (7)] at the basic limit ($100,000).

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

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

CALCULATION OF INDICATED 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	23,460	27,952	4,370	465	6,416	1.00	1.00
200	30,956	27,952	5,007	985	8,483	1.17	1.17
250	33,454	27,952	5,220	1,235	9,174	1.23	1.23
300	35,483	27,952	5,392	1,477	9,736	1.28	1.28
500	41,095	27,952	5,869	2,390	11,290	1.41	1.41
750	45,556	27,952	6,248	3,481	12,523	1.53	1.53
1,000	48,706	27,952	6,516	4,535	13,396	1.61	1.61
1,500	52,999	27,952	6,881	6,524	14,588	1.74	1.74
2,000	55,881	27,952	7,126	8,372	15,390	1.83	1.83
2,500	58,003	27,952	7,306	10,107	15,980	1.90	1.90
3,000	59,648	27,952	7,446	11,742	16,439	1.97	1.97
4,000	62,056	27,952	7,651	14,746	17,111	2.07	2.07
5,000	63,754	27,952	7,795	17,462	17,586	2.15	2.15
10,000	68,209	27,952	8,174	28,681	18,831	2.42	2.42

[a] Reflects trend to prospective average accident date of December 1, 2019 and development to ultimate maturity.

[b] Reflects only per-occurrence limitation. Derived by taking the ratio of columns [(2) + (3) + (4) + (6) + (7)] at the policy limit to columns [(2) + (3) + (4) + (6) + (7)] at the basic limit ($100,000).

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

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

CALCULATION OF INDICATED 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	34,965	59,047	7,991	885	18,037	1.00	1.00
200	49,623	59,047	9,237	2,060	25,614	1.20	1.20
250	54,979	59,047	9,692	2,672	28,384	1.28	1.28
300	59,548	59,047	10,081	3,290	30,748	1.35	1.35
500	73,043	59,047	11,228	5,754	37,734	1.54	1.54
750	84,304	59,047	12,185	8,786	43,565	1.72	1.72
1,000	92,440	59,047	12,876	11,743	47,781	1.85	1.85
1,500	103,566	59,047	13,822	17,258	53,555	2.04	2.04
2,000	110,800	59,047	14,437	22,158	57,315	2.18	2.18
2,500	115,917	59,047	14,872	26,542	59,976	2.29	2.29
3,000	119,791	59,047	15,201	30,551	61,991	2.37	2.37
4,000	125,428	59,047	15,680	37,829	64,921	2.50	2.50
5,000	129,451	59,047	16,022	44,446	67,012	2.61	2.61
10,000	140,156	59,047	16,932	71,924	72,578	2.98	2.98

Reflects trend to prospective average accident date of December 1, 2019 and development to ultimate maturity.

Reflects only per-occurrence limitation. Derived by taking the ratio of columns [(2) + (3) + (4) + (6) + (7)] at the policy limit to columns [(2) + (3) + (4) + (6) + (7)] at the basic limit ($100,000).

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

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

INDEMNITY SEVERITY TREND SELECTIONS

Multistate Paid Average Annual Occurrence Severities

Accident	Premises/Operations		Products/Completed Operations	
Year	Basic Limit	Total Limits	Basic Limit	Total Limits
2007	11,838	21,415	15,871	31,493
2008	12,139	22,367	16,029	31,608
2009	12,491	22,839	15,520	30,946
2010	12,366	22,275	15,609	32,044
2011	13,279	24,599	16,067	32,053
2012	13,191	24,676	16,426	32,663
2013	14,278	27,035	17,793	35,070
2014	15,315	29,841	18,882	38,758
2015	15,963	30,458	20,182	41,290
2016	15,941	31,140	20,872	43,471

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	3.7%	0.9420	4.6%	0.9348	3.4%	0.8177	3.8%	0.8232
8 years	4.2%	0.9394	5.4%	0.9415	4.8%	0.9529	5.2%	0.9239
6 years	4.5%	0.9159	5.6%	0.9270	5.8%	0.9836	6.9%	0.9767
4 years	3.8%	0.8431	4.5%	0.8469	5.6%	0.9837	7.3%	0.9758
Selection			**5.5%**				**5.5%**	

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

Utah   GL-2018-IALL1   Exhibit 13

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

CALCULATION OF INDICATED INCREASED LIMIT FACTORS

PREMISES/OPERATIONS LIABILITY
STATE GROUP B

Payment Lag Parameters

	TABLE 1	TABLE 2	TABLE 3	GovSub, BI [a]	GovSub, PD [a]
R1 =	0.54437687	0.57658335	0.49335641	1.18978489	0.26313716
R2 =	0.32724693	0.38570965	0.35995348	0.56394781	0.18449577
R3 =	0.50850302	0.55450337	0.63047903	0.58798152	0.55555823
k = 1+R1+((R1•R2)/(1-R3)) =	1.90683212	2.07578749	1.97393903	3.81829578	1.37237013

Generation of Lag Weights

		TABLE 1	TABLE 2	TABLE 3	GovSub, BI [a]	GovSub, PD [a]
Lag 1 =	$1/k$ =	0.52443002	0.48174488	0.50660126	0.26189694	0.72866640
Lag 2 =	$R1/k$ =	0.28548757	0.27776608	0.24993498	0.31160103	0.19173921
Lag 3 =	$R1 \cdot R2/k$ =	0.09342493	0.10713706	0.08996497	0.17572672	0.03537507
Lag 4 =	$R1 \cdot R2 \cdot R3/k$ =	0.04750686	0.05940786	0.05672102	0.10332406	0.01965291
Lag 5 =	$R1 \cdot R2 \cdot R3^2/k$ =	0.02415738	0.03294186	0.03576142	0.06075264	0.01091834
Lag 6 =	$R1 \cdot R2 \cdot R3^3/k$ =	0.01228410	0.01826637	0.02254682	0.03572143	0.00606577
Lag 7 =	$R1 \cdot R2 \cdot (R3^4/(1-R3))/k$ =	0.01270914	0.02273589	0.03846953	0.05097718	0.00758230

[a] Governmental Subdivisions data is multistate.

The lag weight distribution includes 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.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

CALCULATION OF INDICATED INCREASED LIMIT FACTORS

PRODUCTS/COMPLETED OPERATIONS LIABILITY
MULTISTATE

Payment Lag Parameters

	TABLE A	TABLE B	TABLE C
R1 =	0.47829503	0.65791309	0.90375466
R2 =	0.24299596	0.41516436	0.62847816
R3 =	0.59617233	0.73969160	0.73576561
k = 1+R1+((R1•R2)/(1-R3)) =	1.76610037	2.70721487	4.05332371

Generation of Lag Weights

		TABLE A	TABLE B	TABLE C
Lag 1 =	$1/k$ =	0.56621923	0.36938332	0.24671111
Lag 2 =	$R1/k$ =	0.27081985	0.24302212	0.22296632
Lag 3 =	$R1•R2/k$ =	0.06580813	0.10089412	0.14012946
Lag 4 =	$R1•R2•R3/k$ =	0.03923299	0.07463053	0.10310244
Lag 5 =	$R1•R2•R3^2/k$ =	0.02338962	0.05520358	0.07585923
Lag 6 =	$R1•R2•R3^3/k$ =	0.01394424	0.04083362	0.05581461
Lag 7 =	$R1•R2•(R3^4/(1-R3))/k$ =	0.02058594	0.11603271	0.15541683

The lag weight distribution includes 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.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

PARAMETERS FOR MIXED EXPONENTIAL DISTRIBUTIONS [a]

PREMISES/OPERATIONS LIABILITY
STATE GROUP B

TABLE 1		TABLE 2		TABLE 3	
Mean	Weight	Mean	Weight	Mean	Weight
1,843	0.522311	2,829	0.487363	3,135	0.457940
11,247	0.348128	13,659	0.326221	13,275	0.312027
76,191	0.108647	78,505	0.148370	66,848	0.152188
268,989	0.016554	392,305	0.031105	259,915	0.047835
947,915	0.003390	1,780,401	0.005601	762,914	0.022729
2,740,950	0.000759	5,113,431	0.001035	2,138,414	0.005028
7,610,108	0.000159	14,482,309	0.000230	4,690,375	0.001320
21,683,625	0.000043	32,687,158	0.000045	8,854,768	0.000578
100,000,000	0.000009	100,000,000	0.000030	21,621,749	0.000283
				100,000,000	0.000072

GOVERNMENTAL SUBDIVISIONS
MULTISTATE

BODILY INJURY		PROPERTY DAMAGE	
Mean	Weight	Mean	Weight
556	0.088530	649	0.599584
10,218	0.515038	3,870	0.291375
51,798	0.329182	20,756	0.087308
291,189	0.054047	83,412	0.017169
938,012	0.010012	240,148	0.003344
2,678,526	0.002336	605,111	0.000858
7,199,880	0.000621	1,436,858	0.000249
20,706,130	0.000189	3,311,084	0.000077
100,000,000	0.000045	7,750,793	0.000026
		21,000,227	0.000008
		97,032,837	0.000002
		100,000,000	0.000000

[a] Model parameters are based on an average accident date of December 1, 2019.

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

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

<u>PARAMETERS FOR MIXED EXPONENTIAL DISTRIBUTIONS</u> [a]

PRODUCTS/COMPLETED OPERATIONS LIABILITY
MULTISTATE

TABLE A		TABLE B		TABLE C	
<u>Mean</u>	<u>Weight</u>	<u>Mean</u>	<u>Weight</u>	<u>Mean</u>	<u>Weight</u>
1,057	0.197866	4,177	0.464007	1,074	0.045510
5,031	0.522696	22,128	0.335648	7,345	0.361681
20,662	0.196318	103,358	0.150420	35,547	0.322987
87,826	0.066569	390,705	0.034428	145,527	0.178687
465,869	0.013575	1,239,504	0.011820	645,098	0.071891
1,774,907	0.002273	3,345,570	0.002621	1,936,091	0.014355
4,978,173	0.000506	8,164,642	0.000748	5,157,671	0.003456
11,805,051	0.000117	21,822,460	0.000249	11,671,601	0.000831
23,866,318	0.000059	100,000,000	0.000059	23,645,743	0.000452
100,000,000	0.000021			100,000,000	0.000150

[a] Model parameters are based on an average accident date of December 1, 2019.

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

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

COMPARISON OF LIMITED AVERAGE SEVERITIES

PREMISES/OPERATIONS LIABILITY
STATE GROUP B

Policy Limit ($,000)	TABLE 1			TABLE 2		
	Empirical LAS[a]	Fitted LAS	Percent Difference	Empirical LAS[a]	Fitted LAS	Percent Difference
100	12,727	12,727	0.00%	17,680	17,644	-0.20%
200	15,648	15,691	0.27%	22,751	22,768	0.07%
250	16,480	16,518	0.23%	24,384	24,385	0.00%
300	17,120	17,137	0.10%	25,715	25,689	-0.10%
500	18,679	18,670	-0.05%	29,410	29,339	-0.24%
1,000	20,453	20,431	-0.11%	34,269	34,253	-0.05%
1,500	21,328	21,314	-0.07%	36,954	36,880	-0.20%
2,000	21,905	21,887	-0.08%	38,674	38,629	-0.12%
2,500	22,322	22,299	-0.10%	39,984	39,944	-0.10%
3,000	22,633	22,612	-0.09%	41,076	40,992	-0.20%
4,000	23,078	23,059	-0.08%	42,666	42,565	-0.24%
5,000	23,391	23,369	-0.09%	43,779	43,685	-0.21%
10,000	24,188	24,163	-0.10%	46,590	46,499	-0.20%

Policy Limit ($,000)	TABLE 3		
	Empirical LAS[a]	Fitted LAS	Percent Difference
100	20,327	20,286	-0.20%
200	27,356	27,316	-0.15%
250	29,818	29,774	-0.15%
300	31,903	31,855	-0.15%
500	38,091	38,024	-0.18%
1,000	46,790	46,684	-0.23%
1,500	51,587	51,488	-0.19%
2,000	54,768	54,658	-0.20%
2,500	57,050	56,944	-0.19%
3,000	58,795	58,695	-0.17%
4,000	61,360	61,257	-0.17%
5,000	63,207	63,096	-0.18%
10,000	68,156	68,048	-0.16%

[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.

　　　　　Utah　　　　　GL-2018-IALL1　　　Exhibit 18

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

COMPARISON OF LIMITED AVERAGE SEVERITIES

PREMISES/OPERATIONS LIABILITY
MULTISTATE

GOVERNMENTAL SUBDIVISIONS

Policy Limit ($,000)	BODILY INJURY			PROPERTY DAMAGE		
	Empirical LAS[a]	Fitted LAS	Percent Difference	Empirical LAS[a]	Fitted LAS	Percent Difference
100	25,721	25,727	0.02%	4,723	4,702	-0.44%
200	32,228	32,246	0.06%	5,365	5,299	-1.23%
250	34,130	34,260	0.38%	5,533	5,469	-1.16%
300	35,762	35,917	0.43%	5,661	5,598	-1.11%
500	40,675	40,635	-0.10%	5,975	5,911	-1.07%
1,000	46,492	46,509	0.04%	6,316	6,251	-1.03%
1,500	49,359	49,368	0.02%	6,478	6,413	-1.00%
2,000	51,185	51,188	0.01%	6,578	6,513	-0.99%
2,500	52,493	52,500	0.01%	6,649	6,584	-0.98%
3,000	53,497	53,508	0.02%	6,703	6,638	-0.97%
4,000	54,970	54,981	0.02%	6,781	6,715	-0.97%
5,000	56,025	56,034	0.02%	6,836	6,770	-0.97%
10,000	58,874	58,883	0.02%	6,979	6,912	-0.96%

[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.

INSURANCE SERVICES OFFICE, INC.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

COMPARISON OF LIMITED AVERAGE SEVERITIES

PRODUCTS/COMPLETED OPERATIONS LIABILITY
MULTISTATE

Policy Limit ($,000)	TABLE A			TABLE B		
	Empirical LAS[a]	Fitted LAS	Percent Difference	Empirical LAS[a]	Fitted LAS	Percent Difference
100	12,364	12,350	-0.11%	23,520	23,460	-0.26%
200	14,935	14,917	-0.12%	30,938	30,956	0.06%
250	15,746	15,731	-0.10%	33,418	33,454	0.11%
300	16,395	16,385	-0.06%	35,479	35,483	0.01%
500	18,274	18,212	-0.34%	41,142	41,095	-0.11%
1,000	20,766	20,714	-0.25%	48,723	48,706	-0.03%
1,500	22,112	22,052	-0.27%	53,061	52,999	-0.12%
2,000	22,969	22,910	-0.26%	55,911	55,881	-0.05%
2,500	23,597	23,534	-0.27%	58,066	58,003	-0.11%
3,000	24,086	24,024	-0.26%	59,722	59,648	-0.12%
4,000	24,838	24,763	-0.30%	62,120	62,056	-0.10%
5,000	25,374	25,301	-0.29%	63,815	63,754	-0.10%
10,000	26,807	26,738	-0.26%	68,279	68,209	-0.10%

Policy Limit ($,000)	TABLE C		
	Empirical LAS[a]	Fitted LAS	Percent Difference
100	35,002	34,965	-0.11%
200	49,691	49,623	-0.14%
250	55,026	54,979	-0.09%
300	59,616	59,548	-0.11%
500	73,299	73,043	-0.35%
1,000	92,545	92,440	-0.11%
1,500	103,805	103,566	-0.23%
2,000	110,989	110,800	-0.17%
2,500	116,092	115,917	-0.15%
3,000	119,980	119,791	-0.16%
4,000	125,640	125,428	-0.17%
5,000	129,659	129,451	-0.16%
10,000	140,347	140,156	-0.14%

[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.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

CALCULATION OF ALLOCATED LOSS ADJUSTMENT EXPENSE PER OCCURRENCE

PREMISES/OPERATIONS LIABILITY
STATE GROUP B

Ratios of ALAE to Total Limits (TL) Indemnity - Paid Data

Accident Year	Table 1	Table 2	Table 3	Gov. Subdiv. [c]
2009	0.31979	0.31164	0.35503	0.60563
2010	0.26109	0.32359	0.31052	0.38489
2011	0.30472	0.28906	0.30582	0.66165
2012	0.29619	0.29497	0.34550	0.70927
2013	0.34148	0.33156	0.39051	0.54661
2014	0.30664	0.34240	0.36995	0.44828
2015	0.30947	0.30819	0.34236	0.49930
Best 5-of-7 Average	0.30736	0.31399	0.34467	0.55230

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
1	0.30736	20,482	6,295
2	0.31399	34,410	10,804
3	0.34467	47,361	16,324
GovSub. BI [c]	0.55230	45,740	25,262
GovSub. PD [c]	0.55230	6,206	3,428

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

[b] Occurrence-weighted average of limited average severities from Exhibits 5-9.

[c] Governmental Subdivisions data is multistate.

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

INSURANCE SERVICES OFFICE, INC.

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UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

CALCULATION OF ALLOCATED LOSS ADJUSTMENT EXPENSE PER OCCURRENCE

PRODUCTS/COMPLETED OPERATIONS LIABILITY
MULTISTATE

Ratios of ALAE to Total Limits (TL) Indemnity - Paid Data

</div>

Accident Year	Table 1	Table 2	Table 3
2009	0.36827	0.54422	0.60248
2010	0.37811	0.55627	0.65037
2011	0.35885	0.58048	0.61130
2012	0.39383	0.59884	0.63357
2013	0.38414	0.56056	0.66069
2014	0.36484	0.57816	0.63362
2015	0.35398	0.57395	0.64233
Best 5-of-7 Average	0.37084	0.56988	0.63424

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Indicated ALAE per Occurrence

</div>

Table	(1) ALAE per Total Limits Indemnity	(2) Mixed Exponential Total Limits Average Severity[b]	(1) x (2) ALAE per Occurrence
1	0.37084	20,823	7,722
2	0.56988	49,049	27,952
3	0.63424	93,099	59,047

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

[b] Occurrence-weighted average of limited average severities from Exhibits 10-12.

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

INSURANCE SERVICES OFFICE, INC.

UTAH
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

ITEM[a]	CALENDAR YEAR				
	2012	2013	2014	2015	2016
(1) Direct Losses Incurred	18,480,140	18,521,277	19,140,390	24,110,646	25,085,478
(2) Allocated Loss Adjustment Expenses Incurred (ALAE)	5,270,137	5,080,420	4,727,492	5,601,664	4,581,304
(3) Unallocated Loss Adjustment Expenses Incurred (ULAE)	1,892,698	2,061,866	2,159,178	2,371,173	2,496,550
(4) Incurred Losses + ALAE [(1) + (2)]	23,750,277	23,601,697	23,867,882	29,712,310	29,666,781

Incurred Percentage[b]

	2012	2013	2014	2015	2016
(5) ULAE as Ratio to (Losses + ALAE) [(3) / (4)]	7.97%	8.74%	9.05%	7.98%	8.42%

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.

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

RISK LOAD PARAMETERS

GENERAL AND COMMERCIAL AUTO LIABILITY

$$\text{Lambda}(\lambda)^a \quad = \quad 1.7380\text{E-07}$$

MULTISTATE PARAMETERS

Premises/Operations			Products/Completed Operations		
d	=	1	d	=	2
c	=	0.005	c	=	0.015
a	=	0.001	a	=	0.001
nbarc	=	350	nbarc	=	1050
(Tables 1-3)					
nbarc	=	89.3			
(GovSub. BI)					
nbarc	=	260.7			
(GovSub. PD)					

VALUES OF nbara

Premises/Operations STATE GROUP B		Products/Completed Operations MULTISTATE	
Table 1	122.28	Table A	352.17
Table 2	211.76	Table B	525.73
Table 3	50.36	Table C	172.10
GovSub. BI[b]	416.96		
GovSub. PD[b]	1218.04		

[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.

[b] Governmental Subdivisions data is multistate.

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

INSURANCE SERVICES OFFICE, INC.

UTAH
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.

Utah   GL-2018-IALL1   Exhibit 25

UTAH
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	0.70~~0.71~~	0.80~~0.81~~					
100	0.71~~0.72~~	0.84~~0.85~~	0.96~~0.97~~				
200	0.72~~0.73~~	0.85~~0.86~~	1.00	1.13~~1.11~~			
300	0.73~~0.74~~	0.86~~0.87~~	1.01	1.14~~1.12~~	1.22~~1.19~~		
500		0.88~~0.89~~	1.03	1.16~~1.14~~	1.24~~1.21~~	1.32~~1.30~~	
600		0.89~~0.90~~	1.04	1.17~~1.15~~	1.25~~1.22~~	1.33~~1.31~~	
1,000			1.05	1.18~~1.16~~	1.26~~1.23~~	1.34~~1.32~~	1.42~~1.41~~
1,500				1.19~~1.17~~	1.27~~1.24~~	1.35~~1.33~~	1.43~~1.42~~
2,000				1.20~~1.18~~	1.28~~1.25~~	1.36~~1.34~~	1.44~~1.43~~
2,500					1.29~~1.26~~	1.37~~1.35~~	1.45~~1.44~~
3,000					1.30~~1.27~~	1.38~~1.36~~	1.46~~1.45~~

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			1.49~~1.48~~					
2,000			1.50~~1.49~~	1.54~~1.52~~				
2,500			1.51~~1.50~~	1.55~~1.53~~				
3,000			1.52~~1.51~~	1.56~~1.54~~	1.62~~1.60~~			
4,000	1.39~~1.37~~	1.47~~1.46~~	1.53~~1.52~~	1.57~~1.55~~	1.63~~1.61~~	1.68~~1.66~~		
5,000	1.40~~1.38~~	1.48~~1.47~~	1.54~~1.53~~	1.58~~1.56~~	1.64~~1.62~~	1.69~~1.67~~	1.73~~1.71~~	
10,000		1.49~~1.48~~	1.55~~1.54~~	1.59~~1.57~~	1.65~~1.63~~	1.70~~1.68~~	1.74~~1.72~~	1.86~~1.85~~
20,000								1.87~~1.86~~

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

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

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REVISED INCREASED LIMIT FACTORS

(Limits are in thousands)

RULE 56.
INCREASED LIMITS TABLES

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

Aggregate	Per Occurrence						
	$ 25	50	100	200	300	500	1,000
$ 50	0.690.71	0.790.80					
100	0.700.72	0.830.84	0.96				
200	0.710.73	0.840.85	1.00	1.161.13			
300	0.720.74	0.850.86	1.01	1.181.14	1.281.24		
500		0.870.88	1.03	1.201.16	1.301.26	1.441.38	
600		0.880.89	1.04	1.211.17	1.311.27	1.451.39	
1,000			1.05	1.221.18	1.321.28	1.461.40	1.651.57
1,500				1.231.19	1.331.29	1.471.41	1.661.58
2,000				1.241.20	1.341.30	1.481.42	1.671.59
2,500					1.351.31	1.491.43	1.681.60
3,000					1.361.32	1.501.44	1.691.61

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			1.781.68					
2,000			1.791.69	1.881.76				
2,500			1.801.70	1.891.77				
3,000			1.811.71	1.901.78	2.041.88			
4,000	1.511.45	1.701.62	1.821.72	1.911.79	2.051.89	2.171.98		
5,000	1.521.46	1.711.63	1.831.73	1.921.80	2.061.90	2.181.99	2.272.06	
10,000		1.721.64	1.841.74	1.931.81	2.071.91	2.192.00	2.282.07	2.602.32
20,000								2.612.33

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

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

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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	$ 25	50	100	200	300	500	1,000
			Per Occurrence				
$ 50	0.71	0.79					
100	0.72	0.83~~0.84~~	0.96~~0.95~~				
200	0.73	0.85	1.00	1.16			
300	0.74	0.86	1.01	1.19~~1.18~~	1.31		
500		0.88	1.03	1.21~~1.20~~	1.34~~1.33~~	1.51	
600		0.89	1.04	1.22~~1.21~~	1.35~~1.34~~	1.53	
1,000			1.05	1.23~~1.22~~	1.36~~1.35~~	1.55~~1.54~~	1.82
1,500				1.24~~1.23~~	1.37~~1.36~~	1.56~~1.55~~	1.83
2,000				1.25~~1.24~~	1.38~~1.37~~	1.57~~1.56~~	1.84
2,500					1.39~~1.38~~	1.58~~1.57~~	1.85
3,000					1.40~~1.39~~	1.59~~1.58~~	1.86

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			2.01					
2,000			2.02	2.15~~2.14~~				
2,500			2.03	2.16~~2.15~~				
3,000			2.04	2.17~~2.16~~	2.36~~2.35~~			
4,000	1.60~~1.59~~	1.87	2.05	2.18~~2.17~~	2.37~~2.36~~	2.52~~2.50~~		
5,000	1.61~~1.60~~	1.88	2.06	2.19~~2.18~~	2.38~~2.37~~	2.53~~2.51~~	2.65~~2.63~~	
10,000		1.89	2.07	2.20~~2.19~~	2.39~~2.38~~	2.54~~2.52~~	2.67~~2.64~~	3.10~~3.07~~
20,000								3.12~~3.08~~

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

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

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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	0.740.75	0.840.82					
100	0.750.76	0.87	0.980.96				
200	0.760.77	0.88	1.00	1.10			
300	0.770.78	0.89	1.01	1.11	1.18		
500		0.91	1.03	1.13	1.20	1.301.29	
600		0.92	1.04	1.14	1.21	1.311.30	
1,000			1.05	1.15	1.22	1.321.31	1.44
1,500				1.16	1.23	1.331.32	1.45
2,000				1.17	1.24	1.341.33	1.46
2,500					1.25	1.351.34	1.47
3,000					1.26	1.361.35	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			1.541.53					
2,000			1.551.54	1.60				
2,500			1.561.55	1.61				
3,000			1.571.56	1.62	1.71			
4,000	1.371.36	1.49	1.581.57	1.63	1.72	1.801.78		
5,000	1.381.37	1.50	1.591.58	1.64	1.73	1.811.79	1.871.85	
10,000		1.51	1.601.59	1.65	1.74	1.821.80	1.881.86	2.102.04
20,000								2.112.05

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

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

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(Limits are in thousands)

RULE 56.
INCREASED LIMITS TABLES

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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	0.73	0.81~~0.79~~					
100	0.74~~0.75~~	0.85	0.96~~0.93~~				
200	0.75~~0.76~~	0.86~~0.87~~	1.00	1.13~~1.11~~			
300	0.76~~0.77~~	0.87~~0.88~~	1.01	1.14~~1.16~~	1.24~~1.23~~		
500		0.89~~0.90~~	1.03	1.16~~1.18~~	1.26~~1.28~~	1.39~~1.40~~	
600		0.90~~0.91~~	1.04	1.17~~1.19~~	1.27~~1.29~~	1.40~~1.42~~	
1,000			1.05	1.18~~1.20~~	1.28~~1.30~~	1.41~~1.44~~	1.58~~1.62~~
1,500				1.19~~1.21~~	1.29~~1.31~~	1.42~~1.45~~	1.59~~1.63~~
2,000				1.20~~1.22~~	1.30~~1.32~~	1.43~~1.46~~	1.60~~1.64~~
2,500					1.31~~1.33~~	1.44~~1.47~~	1.61~~1.65~~
3,000					1.32~~1.34~~	1.45~~1.48~~	1.62~~1.66~~

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			1.70~~1.76~~					
2,000			1.71~~1.77~~	1.79~~1.86~~				
2,500			1.72~~1.78~~	1.80~~1.87~~				
3,000			1.73~~1.79~~	1.81~~1.88~~	1.94~~2.00~~			
4,000	1.46~~1.49~~	1.63~~1.67~~	1.74~~1.80~~	1.82~~1.89~~	1.95~~2.01~~	2.05~~2.11~~		
5,000	1.47~~1.50~~	1.64~~1.68~~	1.75~~1.81~~	1.83~~1.90~~	1.96~~2.02~~	2.06~~2.12~~	2.14~~2.19~~	
10,000		1.65~~1.69~~	1.76~~1.82~~	1.84~~1.91~~	1.97~~2.03~~	2.07~~2.13~~	2.15~~2.20~~	2.42~~2.46~~
20,000								2.43~~2.47~~

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

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Utah   GL-2018-IALL1   Exhibit MP

UTAH
GENERAL LIABILITY INCREASED LIMIT FACTORS

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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**

	Per Occurrence						
Aggregate	**$ 25**	**50**	**100**	**200**	**300**	**500**	**1,000**
$ 50	0.72~~0.73~~	0.78					
100	0.73~~0.75~~	0.84	0.93~~0.92~~				
200	0.74~~0.76~~	0.85~~0.87~~	1.00	1.14~~1.12~~			
300	0.75~~0.77~~	0.86~~0.88~~	1.01~~1.02~~	1.18	1.29~~1.26~~		
500		0.88~~0.90~~	1.03~~1.04~~	1.20~~1.22~~	1.34~~1.35~~	1.50~~1.48~~	
600		0.89~~0.91~~	1.04~~1.05~~	1.21~~1.23~~	1.35~~1.36~~	1.52	
1,000			1.05~~1.06~~	1.22~~1.24~~	1.36~~1.38~~	1.55~~1.58~~	1.82~~1.84~~
1,500				1.23~~1.25~~	1.37~~1.39~~	1.56~~1.60~~	1.83~~1.90~~
2,000				1.24~~1.26~~	1.38~~1.40~~	1.57~~1.61~~	1.84~~1.91~~
2,500					1.39~~1.41~~	1.58~~1.62~~	1.85~~1.92~~
3,000					1.40~~1.42~~	1.59~~1.63~~	1.86~~1.93~~

The following factors MUST be referred to company before using.

	Per Occurrence							
Aggregate	**$ 500**	**1,000**	**1,500**	**2,000**	**3,000**	**4,000**	**5,000**	**10,000**
$ 1,500			2.02~~2.05~~					
2,000			2.03~~2.10~~	2.16~~2.21~~				
2,500			2.04~~2.11~~	2.17~~2.24~~				
3,000			2.05~~2.12~~	2.18~~2.25~~	2.35~~2.42~~			
4,000	1.60~~1.64~~	1.87~~1.94~~	2.06~~2.13~~	2.19~~2.26~~	2.36~~2.44~~	2.50~~2.56~~		
5,000	1.61~~1.65~~	1.88~~1.95~~	2.07~~2.14~~	2.20~~2.27~~	2.37~~2.45~~	2.51~~2.59~~	2.61~~2.68~~	
10,000		1.89~~1.96~~	2.08~~2.15~~	2.21~~2.28~~	2.38~~2.46~~	2.52~~2.60~~	2.63~~2.71~~	2.99~~3.06~~
20,000								3.00~~3.08~~

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

INSURANCE SERVICES OFFICE, INC.

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REVISED INCREASED LIMIT FACTORS

(Limits are in thousands)

RULE 56.
INCREASED LIMITS TABLES

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8. **Governmental Units Premises/Operations (Subline Code 334) – $100/200 Basic Limit**

   The following increased limit factors are provided for policies covering governmental units or political subdivisions in compliance with Utah Section 63G-7-604.

Limit Per Person Other Than PD/Per Occurrence PD/Per Occurrence/Aggregate	Factors
746~~718~~/295~~287~~/2,552~~456~~/2,500	1.34~~1.45~~
746~~718~~/295~~287~~/2,552~~456~~/5,000	1.35~~1.46~~

Table 56.B.8. Governmental Units Premises/Operations (Subline Code 334) – $100/200 Basic Limit

NOTE: Utah Section 63G-7-604 provides that the limitations shall be adjusted each even-numbered year after 2004 in accordance with the consumer price index.