

**Government of the District of Columbia  
Department of Insurance, Securities and Banking**

Stephen C. Taylor  
Commissioner

**BEFORE THE  
INSURANCE COMMISSIONER OF  
THE DISTRICT OF COLUMBIA**

Re: Report on Examination – Insurance Services Office

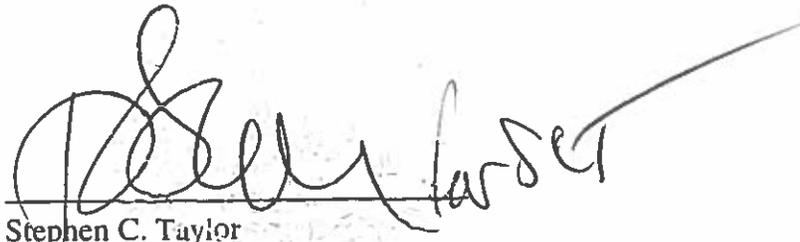
**ORDER**

In accordance with the authority established by D.C. Official Code § 31-2708(a)(1), a Market Conduct Examination of the **Insurance Services Office** as of December 31, 2016 has been conducted by the District of Columbia Department of Insurance, Securities and Banking (“Department”) as a participating jurisdiction through the National Association of Insurance Commissioners’ Advisory Organization Examination Oversight (C) Working Group. The Department accepts the report in lieu of a single jurisdiction examination.

It is hereby ordered on this 17 day of September 2018, that the attached Market Conduct Examination Report be adopted and filed as an official record of this Department.

Pursuant to D.C. Official Code § 31-1404(d)(1), this Order is considered a final administrative decision and may be appealed.

Pursuant to D.C. Official Code § 31-1404(e)(1), the Department will continue to hold the content of the report as private and confidential information for a period of 10 days from the date of this Order.

  
Stephen C. Taylor  
Commissioner

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Insurance Services Office, Inc.

Report of Examination  
As of December 31, 2016

Multi-State Market Conduct Examination of  
Insurance Services Office, Inc.

Adopted: August 27, 2018

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## I. SALUTATION

August 27, 2018

Honorable Marlene Caride,  
Commissioner  
New Jersey Department of Banking and Insurance  
20 West State Street  
PO Box 325  
Trenton, New Jersey 08625

Honorable Eric A. Cioppa,  
Superintendent  
Maine Bureau of Insurance  
76 Northern Avenue  
Gardiner, Maine 04345

Honorable Chlora Lindley-Myers,  
Director  
Missouri Department of Insurance, Financial Institutions and Professional Registration  
Truman State Office Building  
Room 530  
PO Box 690  
Jefferson City, MO 65102

Honorable John Doak  
Commissioner  
Oklahoma Insurance Department  
3625 NW 56<sup>th</sup> Street, Suite 100  
Oklahoma City, OK 73112

Dear Commissioners, Director and Superintendent,

Pursuant to your instructions, an examination has been conducted of the

**INSURANCE SERVICES OFFICE, INC.  
ISO DATA, INC.  
545 Washington Boulevard Jersey City, NJ 07310-1607**

hereinafter referred to as "ISO" or the "Organization." The following report of the findings of this examination is herewith respectfully submitted.

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## II. PURPOSE AND SCOPE OF THE EXAMINATION

The Advisory Organization Examination Oversight (C) Working Group (“the Working Group”) of the National Association of Insurance Commissioners (“NAIC”) initiated a multi-state examination (“the Examination”) of ISO. The Examination was conducted at the direction and overall management and control of the Departments of Insurance for the states of New Jersey, Maine, Missouri and Oklahoma (the “Lead States”), with New Jersey serving as the Managing Lead State.

The primary focus of the Examination involved assessing the Organization’s compliance with specific Market Regulation Handbook (the “Handbook”) Standards and reviewing any substantial process and procedural changes since the prior examination, including but not limited to loss cost/rate filings, rules and other regulated activities, operations & management, data controls, processing editing and compilation procedures and error handling. Additionally, the Examiners investigated any compliance matters from the prior examination. The Examiners collaborated with the Lead States and engaged in ongoing communication with the Organization throughout the course of the Examination.

The Lead States, along with the Working Group and the NAIC prepared the “Work Scope and Project Plan – 2017” (the “Plan”), which included confirmation of the specific Handbook Standards from Chapter 16, Chapter 25 and Appendices F and G of Chapter 25 to be reviewed and tested during the Examination. The Plan was followed on by the Examiners to plan and execute the Examination.

The Working Group solicited states and territories to serve as Participating States for the Examination. Participating jurisdictions include 48 states and the District of Columbia as identified in the listing below.

<b><sup>1</sup>Alabama</b>	<b>Georgia</b>	<b>Maryland</b>	<b>New Jersey (Lead)</b>	<b>Tennessee</b>
<b>Alaska</b>	<i>Hawaii</i>	Massachusetts	New York	Texas
<b>Arizona</b>	<i>Idaho</i>	Michigan	North Dakota	Utah
<b>Arkansas</b>	Illinois	Minnesota	Ohio	Vermont
<b>California</b>	Indiana	<i>Mississippi</i>	Oklahoma (Lead)	Virginia
<b>Colorado</b>	Iowa	Missouri (Lead)	Oregon	<i>Washington</i>
<b>Connecticut</b>	Kansas	Montana	Pennsylvania	West Virginia
<b>Delaware</b>	Kentucky	Nebraska	Rhode Island	Wisconsin
<b>Dist. of Columbia</b>	<i>Louisiana</i>	Nevada	South Carolina	Wyoming
<b>Florida</b>	Maine (Lead)	New Hampshire	South Dakota	

*The states identified in italics have independent property rating bureaus that are responsible for evaluating Fire Departments and determining a risk classification for each Fire Department within the state.*

<sup>1</sup> **Source: NAIC** - Lead and Participating States as of 1-27-17 = 48 Northern Mariana Islands-ISO has no business there  
No response: Guam, Virgin Islands - Not Participating- Three- NC, NM, PR

Information received from ISO's response to the NAIC's Comprehensive Annual Analysis form ("CAA") was also considered to assist in defining the scope of the Examination. The CAA is a process by which an Advisory Organization ("AO") is required to complete a CAA form on an annual basis, to update state insurance regulators of any significant changes made in the operation of an AO's business during the preceding 12 months. In part based on the results of the CAA, the Examination focused on areas including, but not limited to, the following areas of the Organization:

- Operations/Management/Governance
- Statistical Plans
- Data Collection and Handling
- Reports, Report Systems and Other Data Requests
- Rate Making Functions
- Classification and Appeal Handling
- Inspection Services

Further, based on ISO's responses to the CAA, the scope of the Examination *excluded* the following areas, which were not addressed in the Examination:

- Correspondence with Insureds and States
- Form Development
- Residual Market Functions
- Residual Market-Reinsurance Administration

Certain revisions to the scope of the Examination were made by the Lead States to facilitate a targeted review of ISO's Public Protection Classification program ("PPC"). In doing so, the following area, which had originally been excluded, was added to the scope of the Examination with modifications, and specifically focused on the Organization's PPC.

#### **Correspondence with Insurers (Municipalities):**

**Chapter 25 - Correspondence with Insurers (Municipalities) - Standard 1:** The advisory organization keeps track of Insurers (municipalities) that fail to meet deadlines.

The targeted review of ISO's PPC included a survey of a population of Fire Departments (municipality, rural and volunteer) throughout the United States, and which is discussed later in the Report.

The Examination was conducted at the direction and overall management and control of the Lead States. Representatives from the firm of RRC were engaged by the Managing Lead State to complete

the Examination procedures. RRC personnel participated in this Examination in their capacity as Examiners. The RRC Examination Team included Actuarial and Information Technology (“IT”) Specialists as well Market Conduct Examiners.

RRC provides no representations regarding questions of legal interpretation or opinion. Determination of findings, if any, constituting potential areas of non-compliance is the sole responsibility of the Lead States. The Examination Report (the “Report”) notes that the review of practices, procedures and files and related documentation was not exhaustive or all-inclusive; thus the failure to identify unacceptable or non-complying practices does not constitute acceptance of these practices.

### **III. ORGANIZATION PROFILE**

ISO was formed on April 1, 1971 as a national voluntary, non-profit unincorporated association of insurers through the consolidation of various state, regional and national rating bureaus for various lines of property/casualty insurance. Since formation, ISO has undergone a series of changes in its operations and structure, which have included the following:

- Effective January 1, 1983, Insurance Services Office changed its legal form from that of a non-profit association to that of a non-profit corporation. Its name changed from Insurance Services Office to Insurance Services Office, Inc.
- In 1989, ISO started developing advisory loss costs instead of advisory rates and transferred complete decision making authority on all rate related matters, including actuarial methodology, to ISO staff from insurer committees.
- During 1994, insurers relinquished control of ISO to a member board that included seven non-insurer directors.
- In 1997, ISO became an independent for-profit corporation. Insurers may only own stock in ISO that have very restricted voting rights, primarily limited to the election of a minority of the board of directors and matters involving a substantial change to the structure or business purposes of the corporation.
- ISO Data, Inc. a subsidiary of ISO, applied to the states for designation as a statistical agent on July 6, 2001.

- In 2008, Verisk Analytics, Inc. (“Verisk” or the “Company”) was established to serve as the parent holding company of ISO upon completion of an initial public offering (“IPO”), which occurred on October 9, 2009.

Verisk and its consolidated subsidiaries assist risk-bearing businesses in better understanding and managing risks. The Company is one of the largest aggregators and providers of data pertaining to P&C insurance risks in the United States of America (“U.S.”).

It is understood that Verisk, which is not an insurance regulated entity, was not included in the scope of the Examination of ISO; however, Verisk does provide shared services to ISO, and other affiliates, including but not limited to IT, Internal Audit and Inspection Services support.

#### **IV. EXECUTIVE SUMMARY**

ISO was last examined in 2012, for the period January 1, 2007 thru December 31, 2011, when a multistate examination was conducted. The period of the current Examination includes January 1, 2012 through December 31, 2016 (the “Period”). An introductory meeting was held at ISO's offices in Jersey City, New Jersey, on April 20, 2017 with field work beginning thereafter, and concluding in February 2018.

Based on the work performed, consistent with the Plan in assessing the Organization’s relevant processes and procedures, it was determined that ISO’s regulated operations are adequately addressing the Standards reviewed. The Examiners identified certain observations and recommendations for the Lead States’ and ISO’s consideration, which are noted later in the report.

#### **V. GENERAL EXAMINATION CONCLUSIONS AND OBSERVATIONS**

Based on the work completed, the Examiners noted certain general conclusions and observations as discussed below. These matters are detailed further in the report under Examination Standards:

##### **Communication:**

- ISO was cooperative throughout the course of the Examination and the Examiners had direct access to the Organization’s employees for meetings, interviews and walkthroughs.

- ISO's Director of Federal Affairs (Examination Coordinator) and VP of Government Relations were helpful, engaged and active throughout the course of the Examination
- Documentation was provided to the Examiners as requested and in general information was provided in a timely manner. In some instances, the Organization was delayed in providing responses to the Examiners' requests, resulting from vacations, illness and related matters, which prevented the Organization from submitting responses more timely
- Presentations and supporting materials, which were prepared by ISO, were helpful in understanding the Organization.

**Actuarial Scope:**

- ISO's processes and procedures related to its regulated operations meet the relevant Handbook Standards reviewed during the Examination.
- ISO has a strong actuarial team with deep expertise in all major lines of Property and Casualty insurance.
- ISO uses sound actuarial principles and follows the relevant Actuarial Standards of Practice (ASOP) in the development of prospective non-traditional and traditional experience loss cost filings. (Please refer to Appendix B for specific commentary on ISO's compliance with relevant ASOPs).

**Information Technology Scope:**

- The IT Examiners determined that ISO has adequate Information Technology General Controls (ITGCs), resulting in the conclusion that ITGCs are effective on an overall basis for this Examination with no relevant findings or exceptions noted.
- The IT Examiners noted improvements in ISO's IT environment since the prior examination.
- ISO has successfully adopted globally recognized privacy best practices and standards that include the National Institute of Standards and Technology (NIST), and Standard 27002 adopted by the International Organization for Standardization and the International Electrotechnical Commission.

- ISO employs a layered security architecture including organizational, process, physical, logical and monitoring controls designed to protect data assets and quickly detect and respond to threats.

**Market Conduct Scope:**

- The Organization is effectively addressing the areas reviewed and tested during the Examination. No findings or exceptions were noted.
- ISO's policies and procedures regarding the internal audit function, management of insurance information and statistical plan revisions were reviewed and were deemed to meet the requirements as stated in the Handbook.

**PPC:**

- Through their Fire Suppression Rating Schedule (FSRS), ISO has a program in place, for insurance rating purposes, to uniformly assess a Fire Department's ability to mitigate the fire risk within a fire protection area.
- The FSRS recognizes various industry standards adopted by nationally recognized entities such as the American Water Works Association, National Fire Protection Association and the Association of Public-Safety Communications Officials.
- The Organization made changes to the FSRS in 2012 and 2014 to recognize additional attributes related to Fire Department's ability to mitigate the fire risk and to allow for additional points during the PPC risk classification evaluation.
- In some instances, ISO's Field Representatives ("FRs") experience includes those who have previously worked with a Fire Department. This experience enhances the Organization's ability to better evaluate a Fire Department's fire suppression qualifications.
- Employees from the Organization's National Processing Center, Actuarial Unit and IT Unit are also involved in the PPC process. The employees within these units have several years of experience within their disciplines, and these units' experience low turnover rates. As such, the progress and stability of the PPC process can be attributed to these experienced employees.
- ISO has a PPC risk classification evaluation program in place where Fire Departments in the United States are reviewed every five years. If a Fire Department's current evaluation results

- in a less favorable PPC risk classification than their prior one, a retrogression has occurred. ISO has a retrogression program in place where guidance will be provided to Fire Departments so that their prior PPC risk classification can be restored.
- The results of the PPC risk classification evaluation are discussed with Fire Departments before a final report is issued. At this time, a Fire Department can discuss any concerns regarding their PPC risk classification score. However, ISO does not have a formal process in place in which a Fire Department can appeal their PPC risk classification.
  - ISO does not have a FSRS in place for the United States Territories. As such, a PPC program does not exist in the United States Territories.
  - The PPC program for Puerto Rico is an abbreviated version of the PPC program that is in place in the United States. While ISO field representatives conduct PPC risk classification evaluations for Fire Departments in the United States, ISO does not conduct evaluations for Fire Departments in Puerto Rico. Instead, PPC risk classifications are assigned by Insurers based upon a risk's distance from a public Fire ("Station") and public fire hydrant.

## **VI. PRIOR EXAMINATION OBSERVATIONS AND RECOMMENDATIONS FOLLOW-UP**

The Examiners reviewed the prior examination report, as of December 31, 2011. There were no areas of non-compliance identified and as such, no further work to address this area was required.

## **VII. EXAMINERS METHODOLOGY**

The Examiners followed the Handbook for guidance, which included a review of documentation, and testing of records and information maintained and provided by the Organization. Additionally, the Examiners participated in interviews, presentations and onsite walkthroughs at ISO facilities. For the IT area, walkthroughs included a review of ISO's offsite Data Center and multiple visits to ISO's National Processing Center ("NPC"). Further, the IT Examiners reviewed and evaluated relevant aspects of the Organization's IT infrastructure and controls, consistent with Chapter 25 and Appendices F and G of Chapter 25.

The Actuarial Examiners also participated in various meetings and walkthroughs, which included discussions related to changes in the Organization's actuarial staffing, process and procedures as well as telematics and

preparation and follow-up regarding loss cost filings. Meetings also included those specific to discussing ISO's PPC program processes and procedures, which included visits to the NPC.

The Examiners participated in an onsite visit to a New Jersey volunteer Fire Department, where the Examiners and Lead State representatives had the opportunity to observe an ISO Field Representative interview of the Fire Chief specific to gathering information related to PPC.

Where needed, the Examiners tendered inquiries to ISO to gather information, scheduled meetings and interviews, and clarified certain information. Meetings and/or interviews of ISO's key staff members in IT, Actuarial, PPC and IA were conducted to discuss various ISO applications, methodologies, filings, data related and other matters.

Finally, the Examiners prepared a sampling approach and methodology for the Lead States' review and approval, which addressed the samples to be selected for testing and review. Unless otherwise noted, the Examiners suggested using ACL to assist in selecting samples, which were reviewed and tested. In certain instances, judgmental sampling was utilized based on the goals and objectives of a particular area of testing.

The Examiners also selected samples for review and testing related to the following areas:

### **LOSS COST FILINGS**

A judgmental sample of 51 loss cost filings was selected for review by the Actuarial Examiners with the approval of the Lead States. 51 loss cost filings were selected to afford enough testing diversity between the types of filings and geography. 25 of the filings were related to changes to ISO's programs occurring during the Period, that were outside the traditional loss cost experience revision process, hereafter referred to as "non-traditional filings". The remaining 26 filings were related to traditional loss cost experience revisions for lines of business, such as Private Passenger Automobile and Commercial General Liability, hereafter referred to as "traditional filings".

### **INSPECTION SERVICES**

Reference is made to Inspection Standard 1, which is discussed later in the Report. ISO does not provide Inspection Services; however, inspections are a component of ISO's PPC as related to work conducted by their FRs with Fire Departments. As such, the Examiners selected samples to address two (2) specific

aspects of the Organization's operation, related to Inspection Services as follows:

1. The Examiners performed a PPC survey of Fire Departments for which the Organization prepares risk classifications, based on inspections conducted of Fire Departments by ISO's FRs. In collaboration with the Lead States, survey questions were developed, which were directed to approximately 9,000 Fire Departments located throughout the United States. The Organization reviewed the survey questions and provided feedback to the Examiners and Lead States for consideration. (Please reference the report section titled Review of ISO's Public Protection Classification Program for details regarding the PPC Survey).

## VIII. RESULTS OF THE EXAMINATION

### A. REVIEW OF EXAMINATION STANDARDS

The primary focus of the Examination was related to the review and testing, where applicable, of the Standards included with the Plan. In some nominal instances a particular Standard was expanded to include a question from a Lead and/or Participating State. Additionally, sections of Chapter 16 and Appendices F and G of Chapter 25 of the Handbook were also included for review during the Examination.

The following discusses the details of the Examiner's review of the specific Handbook Standards included in the Plan as follows:

#### OPERATIONS/MANAGEMENT/GOVERNANCE

**Standard 2: *The Advisory Organization Uses Sound Actuarial Principles for the Development of Prospective Loss Costs.***

**RESULTS:** The Actuarial Examiners participated in an introductory meeting and presentations at ISO's offices as well as in-person interviews with some of the Organization's actuarial representatives, including: Vice President of Personal Lines, Senior Director and Head of Actuarial Operations, as well as a Principal Actuary for principal commercial casualty products.

The Actuarial Examiners also met with the Actuarial Director of Commercial Automobile and Increased Limits, as well the Actuarial Director for Personal Auto and Umbrella products. They also

attended an in-person meeting on July 20, 2017 with respect to data quality and telematics (see later discussion on telematics). Further, the Actuarial Examiners conducted teleconferences on November 28 and 29, 2017 for a detailed discussion regarding questions related to the review of loss cost filings. During these meetings the Actuarial Examiners discussed the process of data quality, the structure of the Actuarial Unit and the details of the manner in which the analyses are performed for various filings.

**OBSERVATIONS:** Based on the work completed by the Actuarial Examiners, it was determined ISO appears to meet the requirements of Operations Management & Governance Standard 2. In addition to the testing of loss cost filings, the following information was considered by the Examiners in arriving at this determination.

## **Actuarial Processes, Procedures, and Models**

### **1. Actuarial Team Structure**

ISO implemented several structural changes to the Organization's actuarial staff operations since the prior examination. These changes include but are not limited to the following:

- ISO established the Actuarial Operations & Procedures team (AOP), which serves as a bridge between ISO's Data Operations team and the Actuarial teams that ultimately produce the analysis underlying ISO's loss cost filings. This change is viewed as beneficial since direct communication and the ability to discuss issues and solutions results from the partnership.
- The AOP is designed to be flexible regarding staffing to help ensure resources can be provided to respond to new or changing priorities as needed. The Actuarial Examiners also confirmed ISO has made structural changes regarding the Analytical Data Management Team. This team provides the data necessary for preparation of the loss cost filings across all lines of business and products.

### **2. Actuarial Peer Review**

ISO described its actuarial processes, including peer review, in response to a formal request from the Actuarial Examiners. The following information was confirmed during the review of this information:

- Actuarial Operations processes data through the ratemaking system and review the output for quality, completeness, accuracy and reasonableness.
- Preliminary results are discussed at a Pre-ALERT (Actuarial and Line Experience Review Team) meeting, during which the Actuarial Operations team provides filing recommendations and the Product Line Actuaries provide input on the recommendations. Working together, these two teams make decisions for changes to the analysis supporting filings.
- The Pre-ALERT meeting is followed by an ALERT meeting where the final indications are presented.
- Government Relations Division provides input on the filing recommendations and a final determination and action is made.

The Actuarial Examiners determined that based on this information, the Organization appears to have an effective peer review process, with multiple layers of review from qualified actuaries. ISO provided the Actuarial Examiners with the Pre-Alert and Alert Final documents, which serve as the Organization's notes.

### **Telematics**

The Organization began including a telematics program, which has been filed throughout the United States. Telematics is an interdisciplinary field that encompasses telecommunication, vehicular technologies, road transportation, and engineering and computer science. A growing number of insurers are using Telematics or are in the process of planning to utilize the technology in the rating of policyholders. Given the existing advanced modeling techniques, ISO has also begun incorporating the use of Telematics. The Actuarial Examiners view these developments as positive in the sense that Telematics-based models can potentially lead to safer driving behaviors, as the basis for loss cost changes depends more heavily on such behaviors. ISO currently has filed the following three (3) rating rules which employ Telematics:

- The Geometric program which uses geospatial data in order to measure how much driving occurs in areas that are less risky than the garaging location of the vehicle.
- The Safety Scoring program which uses a set of data to model complex driving behaviors. The data elements for Safety Scoring are obtained through a third party Telematics Service

Provider (TSP) that is capable of collecting GPS. Safety Scoring uses a Generalized Linear Model to predict riskiness.

- The VESM (Verisk Exchange Scoring Model) which uses a well-defined set of data in order to produce the VESM score.

These programs represent incentives for individuals who believe they are good drivers and use of the program would result in a discount. At present all three rules produce a discount only, e.g., *no surcharges*. Please note that it was determined with the Organization that ISO did not have any customers for their telematics program during the Period.

### **3. Risk Analyzer**

ISO's Risk Analyzer Personal Auto rating plan ("Risk Analyzer") is intended to improve ratemaking accuracy by including consideration of detailed risk factors. These risk factors include:

- Environment (risk factors such as weather and geographic characteristics)
- Vehicle (risk factors such as body style and dimensions)
- Driver (risk factors such as count and age of past violations)

ISO's Risk Analyzer analysis is performed by means of advanced statistical methods, through the use of Generalized Linear Models. The results of Risk Analyzer are included in the rating rule portion of the filing. ISO periodically reviews the underlying ISO Risk Analyzer predictive models to determine if changes to the structure of the model and/or variables used in the model are necessary to ensure that the model is optimized for rating accuracy. The Examiners considered the Risk Analyzer analysis during the review and testing of the sample of loss cost filings.

### **4. Changes in Actuarial Procedures**

There were a number of changes to ISO's actuarial procedures since the prior examination across various products, which include the following:

- Number of years ISO uses data for excess losses; and
- ISO implemented updated credibility procedures for certain lines of business. Many lines of business have not yet had their credibility procedures updated and are still relying on data that is not current.

Please note these changes were considered in the loss cost filings reviewed by the Actuarial Examiners (see Appendix A).

## **5. Documentation of Actuarial Procedures**

ISO Actuaries rely on several procedures to monitor and identify potential changes to the Organization's loss cost and rating factor procedures as follows:

- The Actuarial Procedures unit's primary focus is monitoring the Organization's actuarial procedures. The actuarial staff in this unit monitors actuarial literature, presentations at actuarial meetings, industry pricing methodologies and customer feedback to help identify areas that warrant additional research. Staff also completes independent and original research regarding potential ISO methodologies.
- ISO's Actuarial Operations and Product staff is also actively exploring potential changes to ISO methodologies in concert with the Actuarial Procedures unit; however, the information gathered includes insights gained from their interactions with customers, regulators and other interested parties.

If the Actuarial Procedures unit, Actuarial Operations or Product Line Actuarial areas determine a change to a procedure is warranted, meetings are conducted with the relevant business units to secure agreement regarding the procedural change. ISO's Government Relations staff are also included in the discussion. If the recommended change represents a material change to a procedure, ISO discusses the change with the appropriate actuarial panel to secure their input. The Organization's senior actuarial staff will make the final determination regarding the procedure change after evaluating input from the panel. Any material change in methodology would be explained in the filings that introduce the change.

## **6. Loss Cost Filing Review**

### **Selection Process**

The Actuarial Examiners selected 51 filings for review, spanning all major lines of business and a broad cross-section of states. This included 25 non-traditional and 26 traditional filings. The selection process was intended to allow for review of changes that occurred during the Period. Such changes include new programs such as Telematics, modifications to actuarial methodologies and

assumptions and the introduction of new classifications. The process to select a sample of loss cost filings was discussed and approved by the Lead States. Please see Appendix A for a complete listing of the filings reviewed.

### **Interviews with Responsible ISO Actuaries**

The Actuarial Examiners conducted detailed reviews of all 51 filings. The Actuarial Examiners selected 20 of these 51 filings to perform in-depth discussions with the ISO actuaries responsible for the analysis. The 20 filings included twelve (12) non-traditional filings (including Telematics) and eight (8) traditional filings.

### **Actuarial Standards of Practice (ASOP)**

The 51 filings were reviewed and tested by the Actuarial Examiners, as compared to certain actuarial guidelines set forth in the ASOP. ASOPs identify what actuaries should consider, document, and disclose when performing an actuarial assignment in the United States. The ASOPs that apply to the ISO procedures for the Examination are identified below for reference:

- ASOP #12: Risk Classifications
- ASOP #13: Trending Procedures in Property/Casualty Insurance
- ASOP #23: Data Quality
- ASOP #25: Credibility Procedures
- ASOP #29: Expense Provisions in Property/Casualty Insurance Ratemaking (for loss based expenses only)
- ASOP #38: Using Models Outside the Actuary's Area of Expertise (Property and Casualty)
- ASOP #39: Treatment of Catastrophe Losses in Property/Casualty Ratemaking, and
- ASOP #41: Actuarial Communications

## **Review of Key Assumptions**

The Actuarial Examiners' testing included certain calculations performed by ISO, which were used to support key assumptions in ISO's actuarial analysis within the loss cost filings. These calculations included the following:

- Loss Development Factors
- Trend Factors
- Procedure for Wind and Water losses (where applicable)
- Procedure for Hurricane losses (where applicable)
- Extension of Exposures or on-level factors
- Credibility Procedures
- Increased Limits Factors
- Loss Adjustment Expenses
- Classification Relativity Analysis
- Use of Models

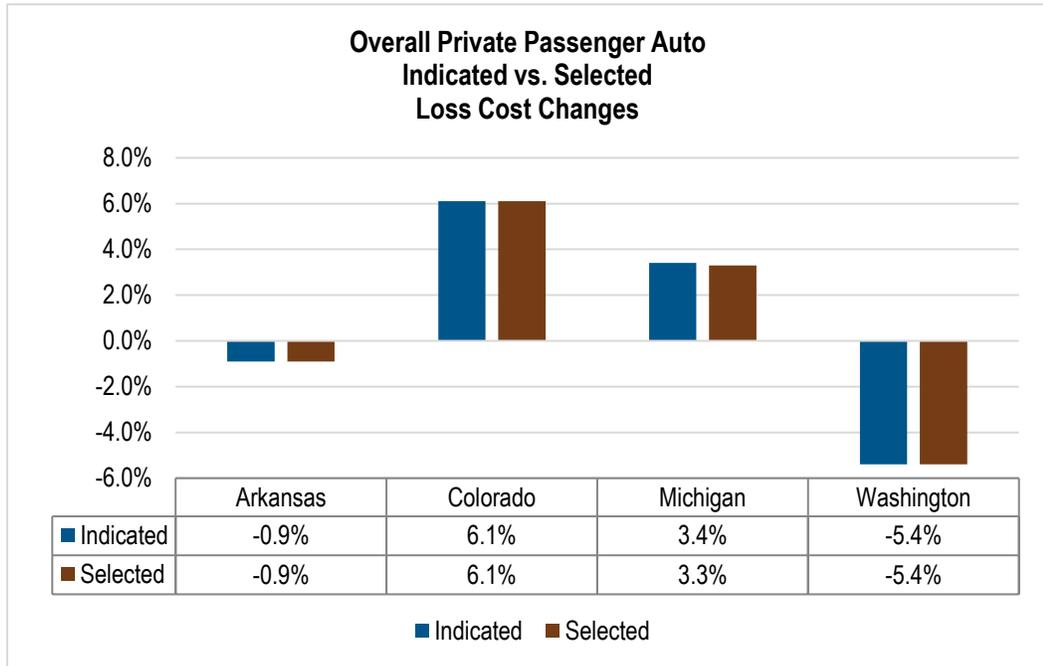
The following information represents a summary of specific areas of the results of the Actuarial Examiners' review, including illustrative charts.

## **Private Passenger Automobile**

Examples of key assumptions and results found in the traditional Private Passenger Auto and Commercial General Liability loss cost filings reviewed by the Actuarial Examiners are shown below. The Actuarial Examiners note that ISO's key assumptions appear to be based on reasonable approaches and appear to be consistent across states.

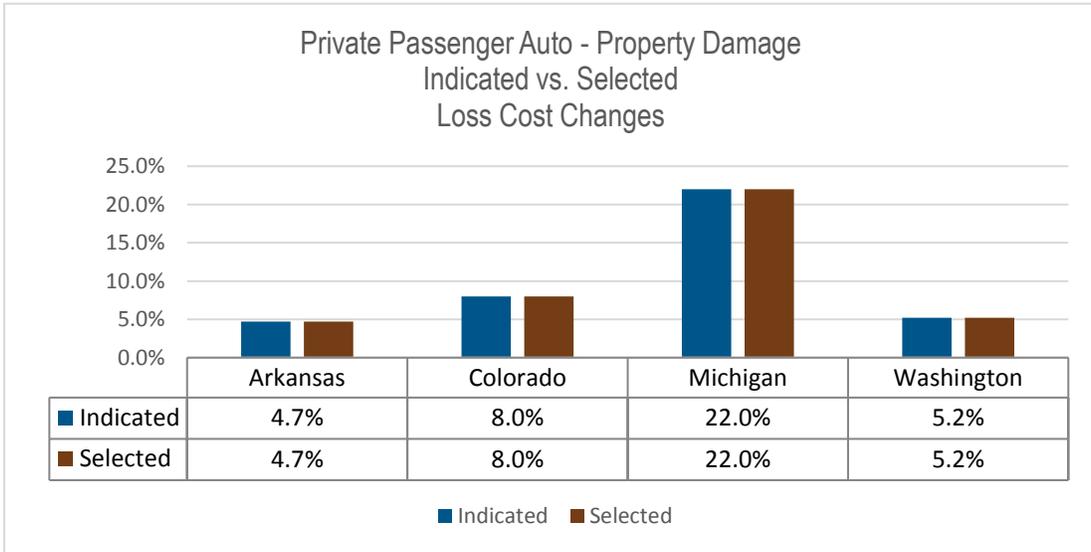
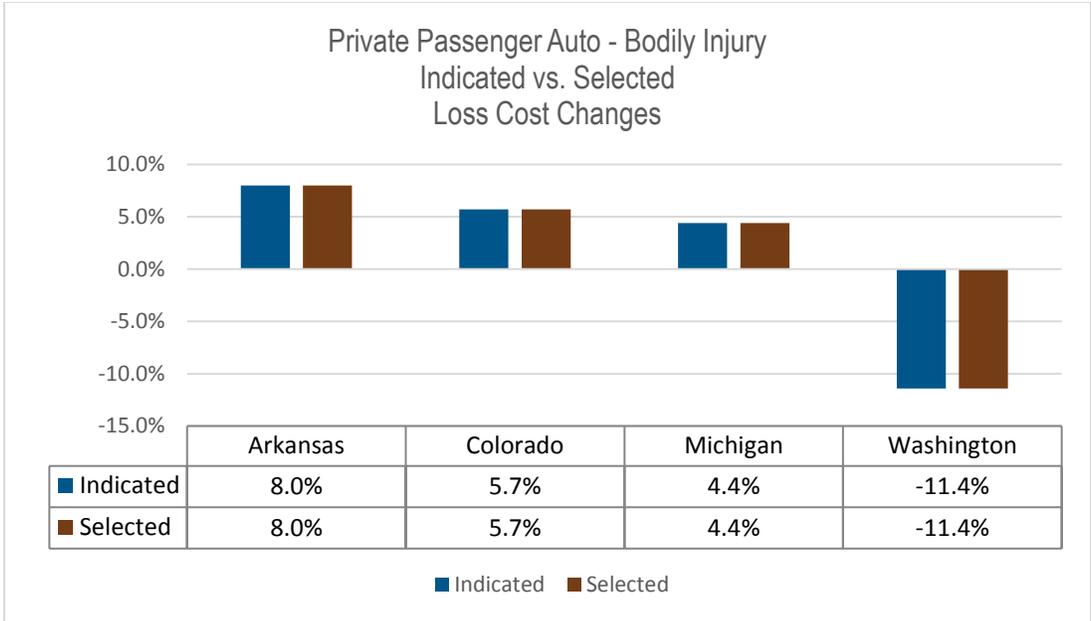
The following charts illustrate key assumptions and selections made by ISO in the traditional Private Passenger Automobile and Commercial General Liability filings as reviewed by the Actuarial Examiners.

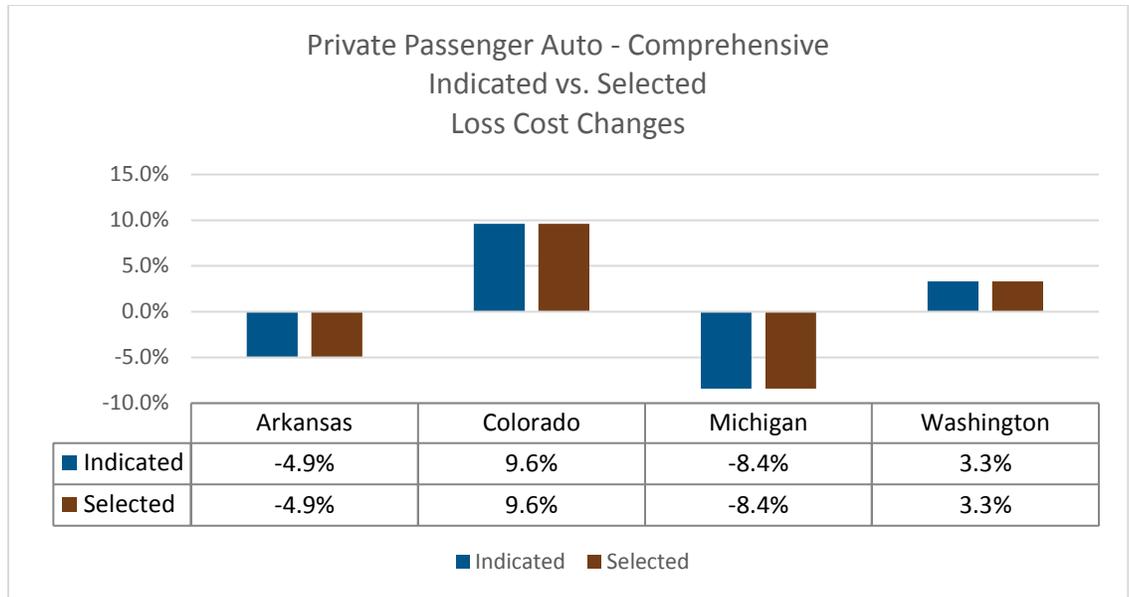
a. **Private Passenger Automobile - Overall Indicated versus Selected Loss Cost Changes**



For all four (4) states reviewed and included in the above chart, ISO’s indicated loss cost change is equal to the selected change. The overall loss cost level changes are within a fairly narrow band, suggesting that loss cost levels are relatively stable on average.

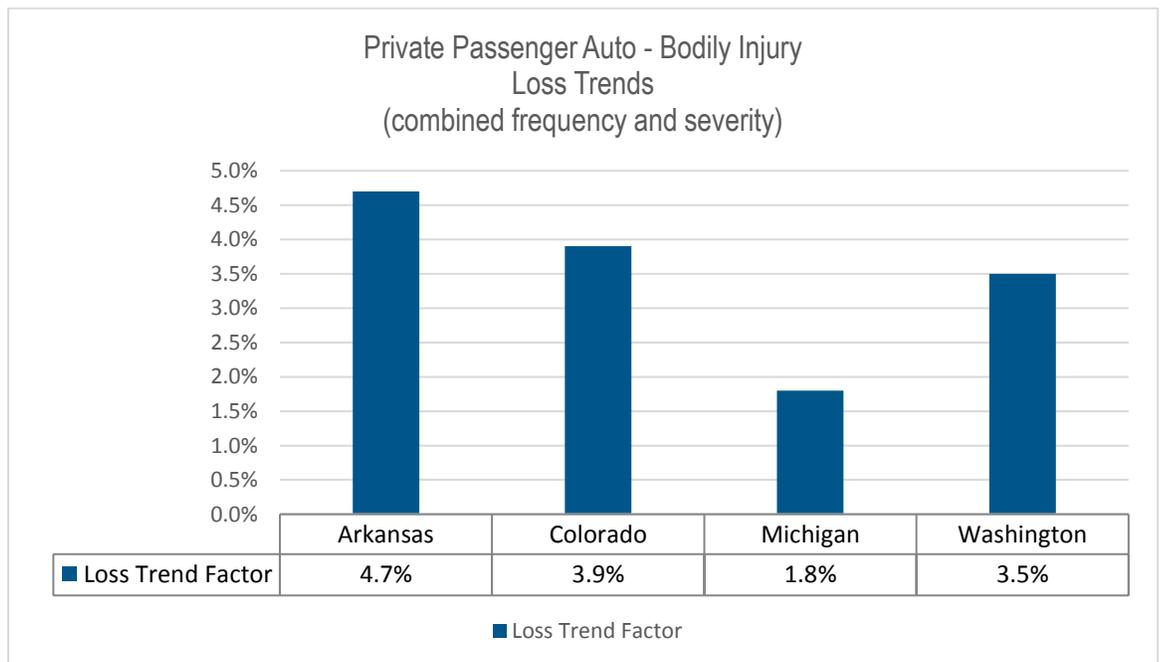
The charts, which follow discuss similar information by coverage for Bodily Injury, Property Damage, Comprehensive, and Collision. The Actuarial Examiners noted that there are larger changes at the coverage level, as is to be expected given the smaller volume of data in comparison to all coverage combined.

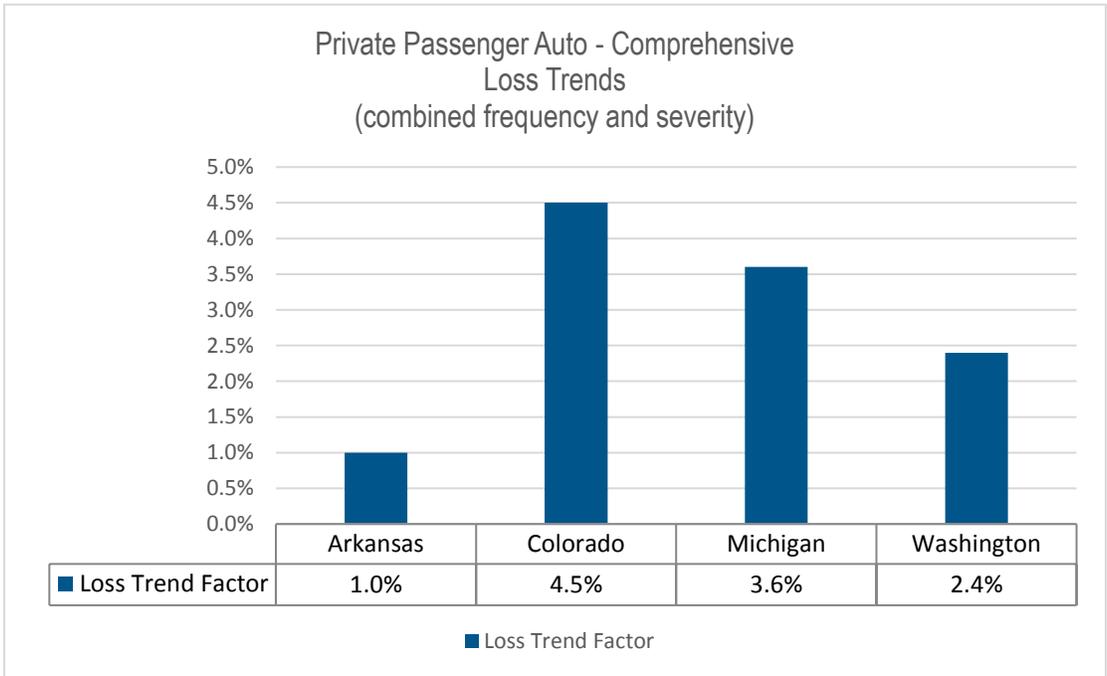
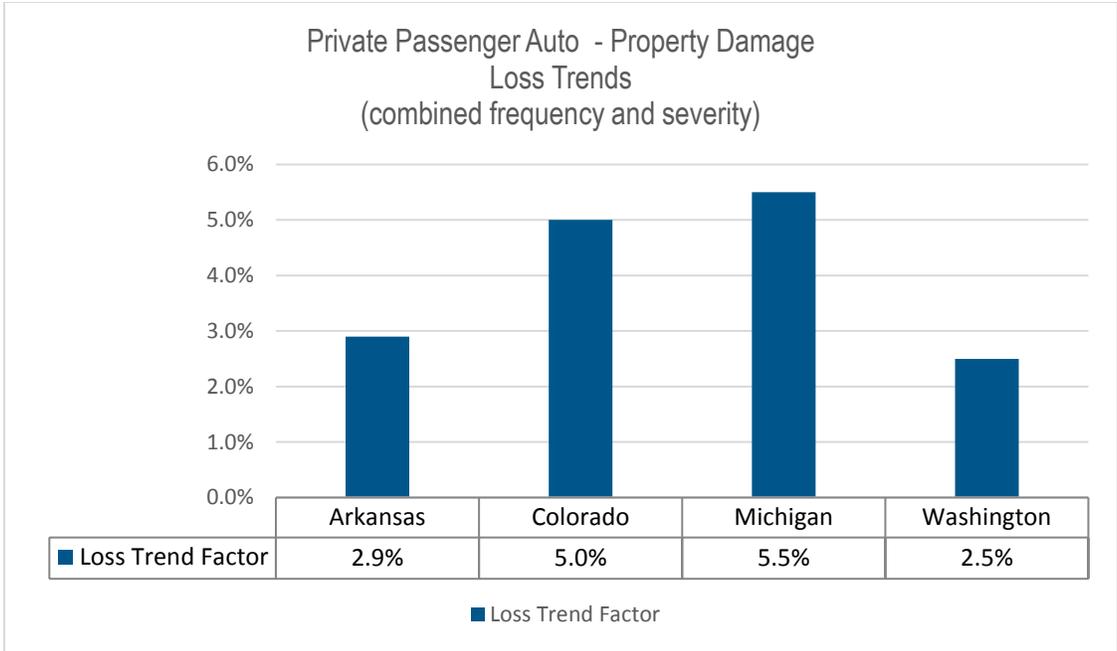


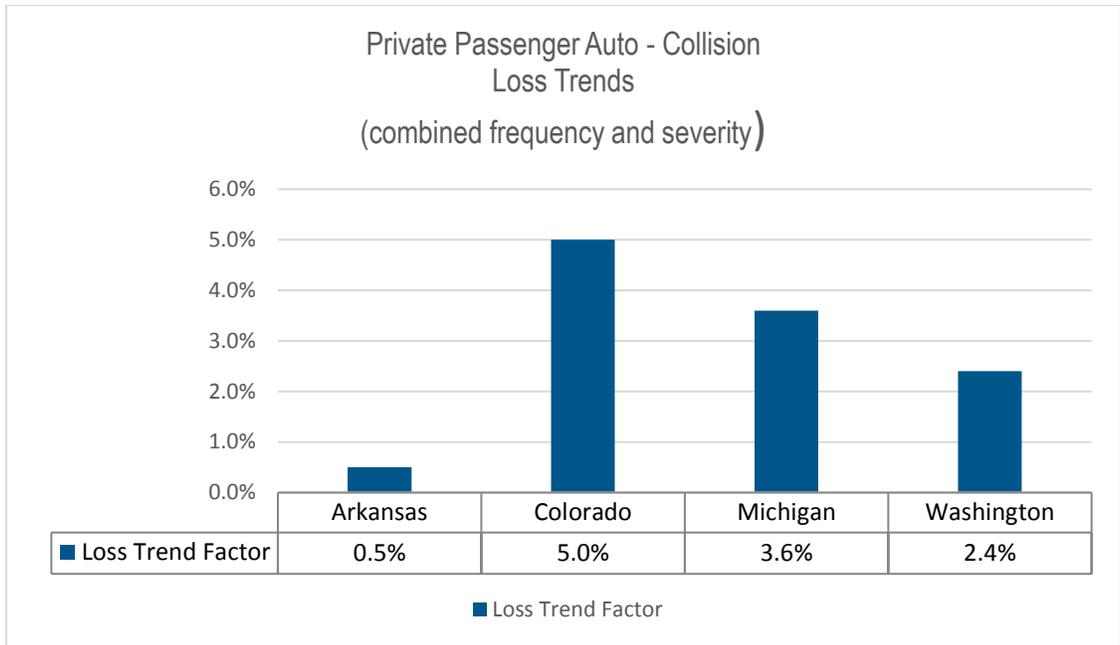


**Private Passenger Automobile – Loss Trends**

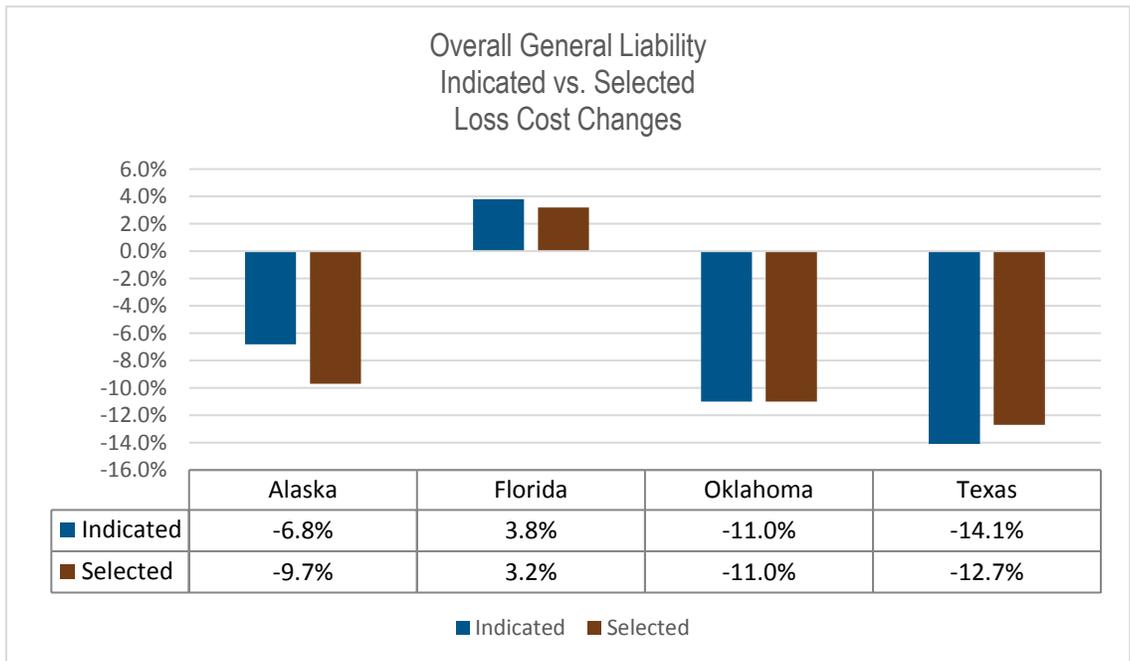
The following charts display ISO's selected Private Passenger Automobile loss trends for the states reviewed by the Actuarial Examiners. The results for Colorado tend to have the highest or second highest trend for all coverage. This is consistent with the overall loss cost change seen in the prior charts, which was highest for Colorado at +6.1%.







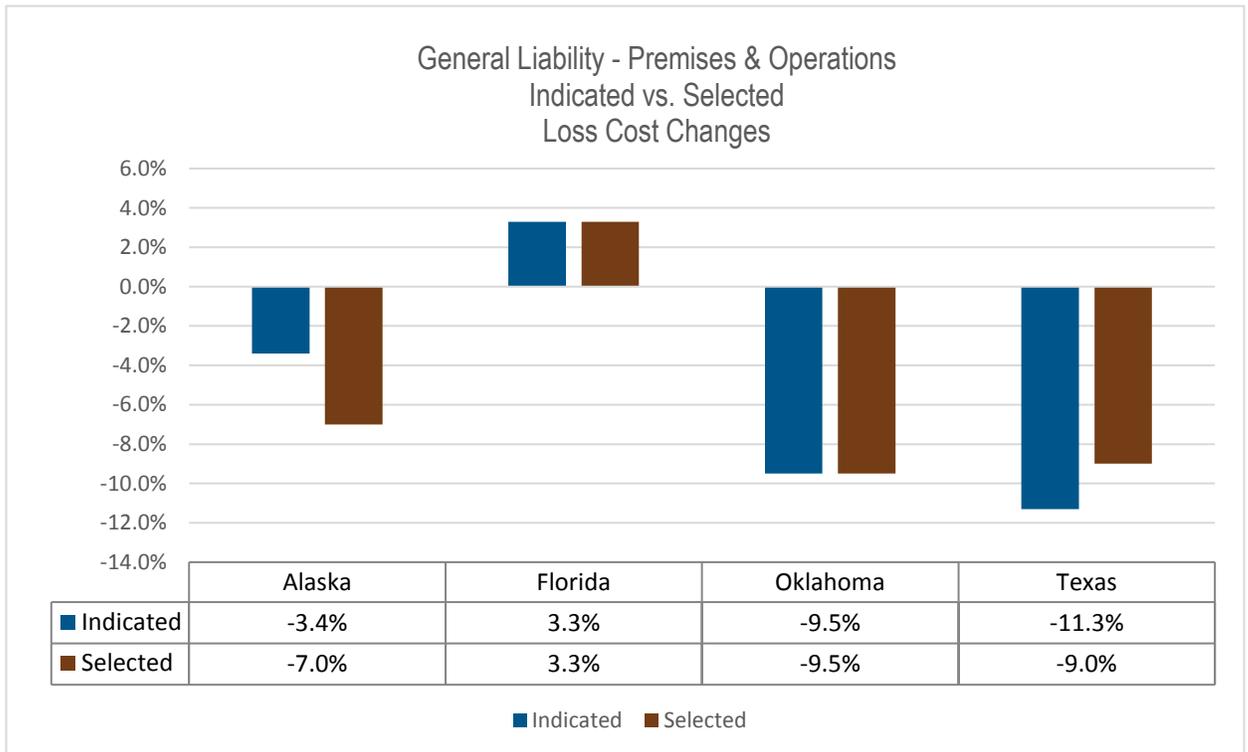
**Commercial General Liability - Overall Indicated versus Selected Loss Cost Changes**



Unlike Private Passenger Auto, as illustrated in the above chart, ISO's Commercial General Liability indicated loss cost change is often not equal to the selected change. It is also noted that the magnitude of the loss cost changes tend to be larger for Commercial General Liability as compared to Private Passenger Auto. This is not surprising, as Commercial General Liability

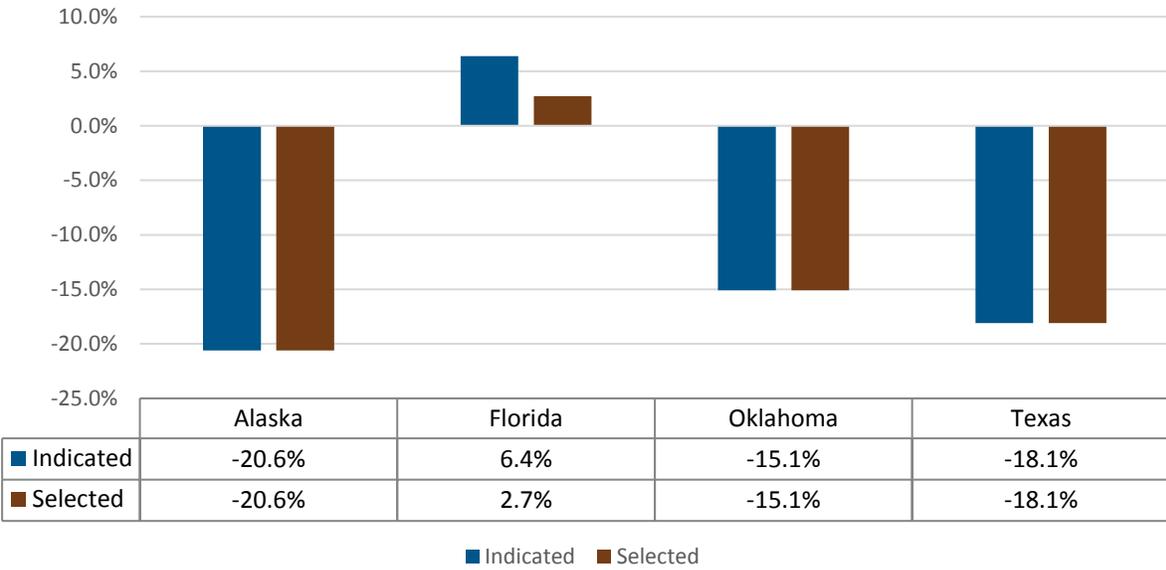
has a longer development period and more uncertainty in general than Private Passenger Automobile.

The charts that follow reflect the same information by coverage for Premises and Operations versus Products and Completed Operations. The indicated loss cost changes by coverage tend not to offset one another; they both indicate an increase or they both indicate a decrease. This suggests that the trends in General Liability may affect both Premises and Operations and Products and Completed Operations in similar manners.

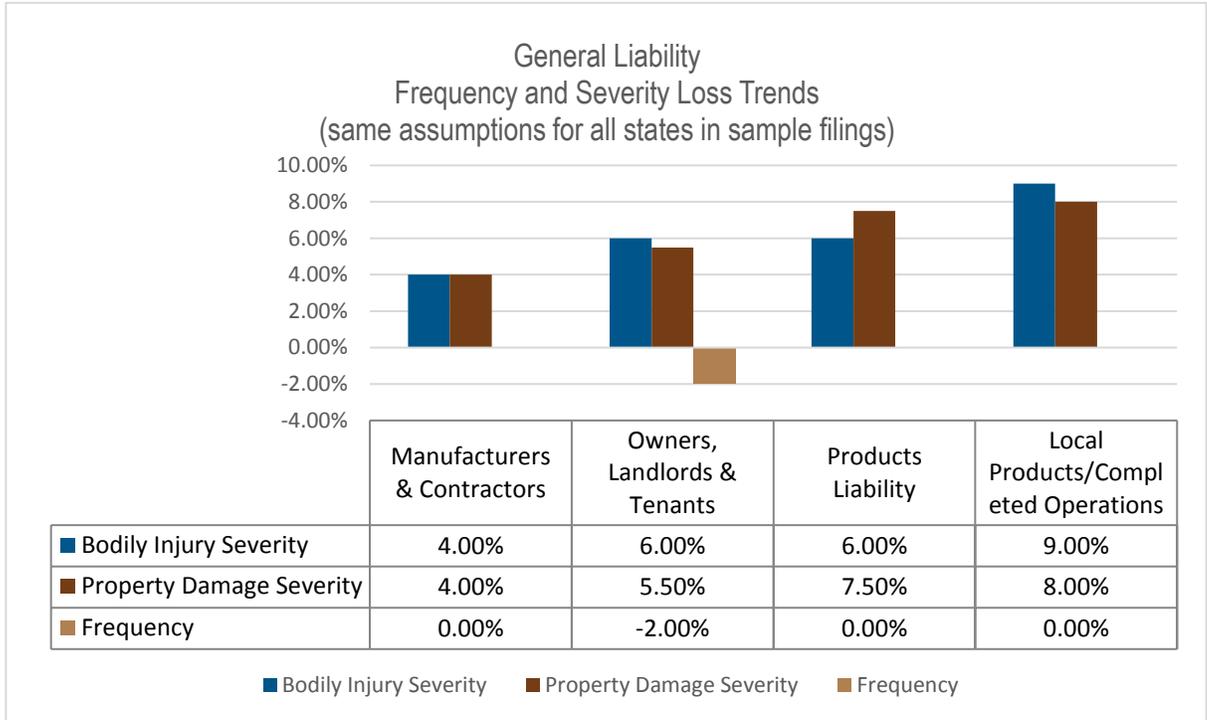


**Commercial General Liability – Loss Trends**

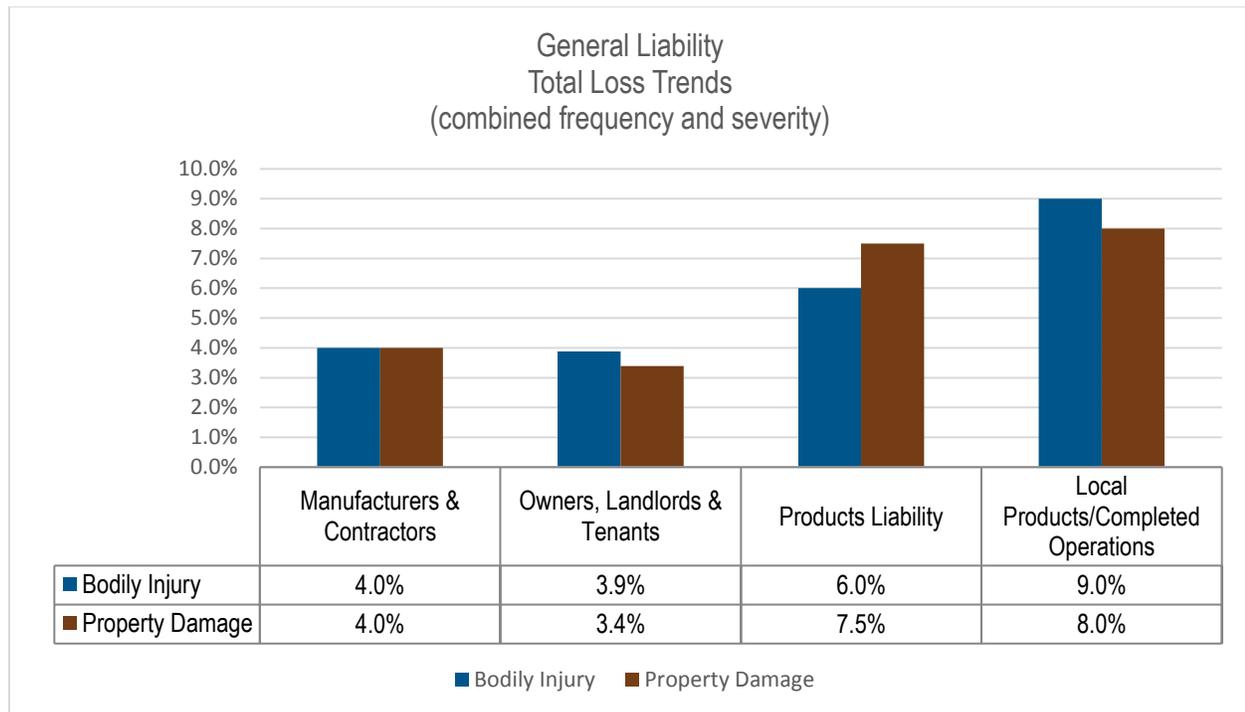
General Liability - Products & Completed Operations  
Indicated vs. Selected  
Loss Cost Changes



The following chart displays ISO's selected Commercial General Liability loss trends, split between frequency and severity (with severity shown for Bodily Injury versus Property Damage). Unlike Private Passenger Automobile, ISO does not select different Commercial General Liability loss trend assumptions for the states reviewed by the Actuarial Examiners. As such, the chart below represents the loss trend assumption for each state.



The following chart identifies similar information as the above chart; however, frequency and severity trends have been combined. The trend assumptions for some of the Commercial General Liability coverage, particularly Product Liability, are substantial. Trends of this magnitude can make rate stability challenging, as there tends to be more uncertainty and any underestimation or overestimation of trend can have a significant impact on the overall loss cost indication.



The following information discusses the review of the additional Handbook Standards included in the Plan.

**Standard 5: *The Advisory Organization Performs Thorough and Meaningful Inspections and Research when Required for Individual Insured Rating Classification.***

**Results:** Please note that the review of Standard 5 was combined and addressed with the Examiner's work with Standard 1 – Inspection Services.

**Standard 6: *The Advisory Organization Develops Sound, Understandable and Appropriate Risk Classifications.***

**Results:** The Examiners reviewed documentation and related information as provided by ISO and conducted interviews to address the review of Standard 6.

**Observations:** Based on the Examiners review as discussed below, it appears that ISO satisfies the requirements of Standard 6. Additionally, ISO's risk classification process is discussed further in the report under the Examiner's work related to PPC.

ISO has filed their Fire Suppression Rating Schedule (FSRS) with each Department of Insurance. The FSRS is utilized by ISO for insurance rating purposes to evaluate a community's ability to prevent and suppress commercial and residential property structure fires.

- The FSRS was developed by ISO and includes certain principles and standards that recognize various industry standards from the National Fire Protection Association (NFPA), American Water Works Association (AWWA) and the Association of Public-Safety Communications Officials (APCO). ISO monitors these entities to identify any new standards within the fire industry. Also, ISO attends industry conferences on a regular basis to determine new trends and proposed principles and standards established by these entities.
- The FSRS is comprised of the following four categories that collectively total 105.5 points that are utilized in the Organization's PPC scoring process:
  - Emergency Communications, (10 points are available);

- Fire Department, (50 points are available);
  - Water Department, (40 points are available); and
  - Community Risk Reduction which accounts for the remaining 5.5 points.
- The Emergency Communications Category considers the community's emergency reporting practices, which includes the reporting facility, timeliness of answering calls, number of employees, employee certifications and training programs.
  - The Fire Department Category addresses the Fire Department infrastructure which includes the type of staff such as volunteer, full time employees and on-call; the number of fire fighters; the Fire Department equipment such as the number of engines (fire truck), the equipment on each engine, number of engines with ladders, the pump capacity for each engine and the number of engines in reserve for use when needed; and finally the training programs provided to fire fighters which includes a review of the training curriculum and attendance sheets and records.
  - The Water Department Category is focused on a community's ability to suppress fires, which includes a review of the water supply system; fire hydrant inspections and flow testing; type and size of hydrants; and an evaluation of the needed fire flow which is the amount of available water in relation to the amount needed to extinguish a fire.
  - The Community Risk Reduction Category includes a review of a community's efforts to reduce fire risks through fire safety education, fire prevention codes and enforcement, and fire investigation programs.
  - The Organization reviews the FSRS on a periodic basis to determine if changes are needed. In doing so, ISO management attends NAIC meetings and interacts with regulators and insurers that may provide input suggesting a change to the FSRS. Also, ISO closely monitors program and standards changes at NFPA, AWWA and APCO in order to identify potential changes to the FSRS.
  - During the Period, ISO made two changes to the FSRS. In 2012, the focus of FSRS was changed from a resource based program to a performance and resource based program where 105.5 points are available to derive a community's PPC score. In 2014, a split classification system was derived to allow credit with respect to a structure that is

within five miles of a responding Fire Department but over 1,000 feet from a credible water supply. ISO informed the Examiners that changes to the FSRS are communicated to regulators through SERFF filings and ISO's interactions with insurance department employees while attending NAIC meetings. Additionally, the Organization conducted a regulator panel on the split class. The two changes noted above were driven by ISO's analysis of the FSRS and determined the changes were appropriate.

- ISO FRs utilize the FSRS to derive a PPC score for approximately 25,000 Fire Departments serving in excess of 40,000 Fire Protection Areas located throughout the United States and the District of Columbia.

***Standard 7: Loss Control Services are Effective and Based on Valid Risk Management, Engineering and Scientific Evidence.***

**Results:** Although this Standard was included for review during the Examination, the Examiners determined through discussions with ISO, that the Organization did not provide Loss Control Services during the Period. The Organization also informed the Examiners that within their responses to the CAA, they advised the NAIC that this standard does not apply to ISO because they are not involved with workers compensation insurance. ISO further notes that this standard is specific to a rating organization's role in actively managing the classification program and related appeals and grievances in accordance with applicable state statutes and regulations. Individual risk experience rating modification factors, individual insured rating classifications functions and related manuals and loss control services are not performed by ISO.

**Observations:** The Examiners determined the Organization does not provide Loss Control Services.

***Standard 12: The advisory organization has an up-to-date, valid internal or external audit program.***

**Results:** The Market Conduct and IT Examiners independently reviewed documentation and related information regarding ISO's Internal Audit ("IA") program. The IT Examiners also performed a process walkthrough and testing of the

Organization's IA process and procedures. Also, the IT Examiners reviewed ISO internal audits performed between 2012 and 2016. Based on the Examiner's review, it was determined the Organization appears to satisfy the requirements of Standard 12.

**Observations:** The Examiner's work included the following:

- Verisk provides IA function services based on a shared platform to affiliates including ISO.
- A risk based annual IA plan is developed by the Chief Internal Auditor (CIA) and submitted to the Verisk Audit Committee of the Board of Directors (Audit Committee) for approval.
- The IA Department reports directly to the Audit Committee of Verisk's Board of Directors with an "administrative only" reporting relationship to General Counsel.
- The IA staff conducts four primary audits as follows:
  - Sarbanes-Oxley Section 404 compliance;
  - Assurance;
  - Continuous Control Monitoring; and
  - Various other audits and projects as requested by management.
- Deloitte LLP, the Organization's external auditor ("EA"), conducts Sarbanes-Oxley testing on an annual basis. Finally, a Systems and Organization Controls ("SOC") report covering the processing controls at the data centers is generated by an independent firm, Habif, Arogeti, and Wynne, LLP.
- The IT Examiners reviewed several IT audit reports and noted the following:
  - The scope of the work performed was appropriate.
  - The sampling procedures used were appropriate.
  - Test plans are designed to adequately test the control and tests are executed in accordance with the test plans.
  - Work was properly documented, including evidence of supervision and review.
  - The conclusions reached were consistent with the results of the work performed.
  - Based on the review of the Internal Audit work and the associated work documented in the SOC report, the IT Examiners were able to confirm that ISO's Internal Audit Department participates in the Software Development Life Cycle (SDLC) process related to selected projects and enhancements.

- IA reports include any identified deficiencies, which are noted during the review, including a remediation action plan for each deficiency. The Organization's business unit in the area audited is responsible for implementing the status of corrective action plans to the CIA.
- The CIA reports IA activity to the Audit Committee on a quarterly basis. Such reporting includes status of ongoing audits, identified deficiencies and associated remediation action plans.

**Standard 13: *The advisory organization has appropriate controls, safeguards and procedures for protecting the integrity of computer information.***

**Results:** The Examiners reviewed documentation provided by ISO and conducted a process review and testing and, as a result, noted that ISO appears to satisfy the requirements of Standard 13. Please refer to the review and testing under Appendix F, Management & Operations for additional information.

**Observations:** A procedural review, which included a process walkthrough with ISO key employees, as well as detailed testing, was performed to identify the controls the Organization has in place specific to Standard 13. Further, testing was also performed to evaluate the safeguards and procedures for protecting the integrity of computer information.

The IT organization for Verisk is considered a "shared service" among the Verisk business units, which would include ISO. The Organization maintains an in-house IT group which runs the Organization's network and infrastructure. Managed services include the infrastructure, software, people, procedures, and data necessary to provide the products and services of the Verisk businesses. The Verisk IT function is organized in a hierarchical structure with the Chief Information Officer ("CIO") having overall responsibility for Information Technology. Under the CIO, there are six (6) Department Managers including the CIO Insurance Solution (where ISO is aligned) to support any ISO-specific applications, for example PPC applications CMCI, CMDB, etc.

During the Period, the Organization used multiple datacenters for load-balancing and disaster recovery purposes. The Eastern datacenter is outsourced to a third-party provider while the Western datacenter is owned by Verisk. The datacenters locations include the following:

- Eastern Data Center – New Jersey
- Western Data Center – Utah (Verisk-owned)

The IT Examiners performed a walkthrough of the computer facility at the Eastern Data Center and confirmed that appropriate physical security safeguards are in place.

- The Data Centers' access controls include identification badges, personal identification numbers, and biometric security devices. Closed Circuit TV (CCTV) cameras record activity throughout. Utilizing motion sensors and door contacts, alarm systems are monitored to detect and respond to any unauthorized access. Portals and mantraps exist to control the entry to and exit from the data halls.
- The Data Centers are also equipped with uninterruptible power supply (UPS) battery backup systems and redundant power distribution units. In the event of a power surge from the utility feeds, the UPS absorbs the surge, preventing it from passing to the Data Centers' infrastructure. In the event of a power failure, the UPS temporarily switches to the battery backup system while the generator starts up. The Eastern and Western Data Centers use commercial grade diesel generators, which provide secondary power to the Data Halls. The generators are run tested monthly and preventative maintenance is performed semi-annually.
- The Eastern and Western Data Centers utilize a hot aisle containment system to control the temperature of its systems. The Hot Aisle Containment System (HACS) encloses an aisle to collect the hot exhaust air from the equipment and cools it to make it available for the equipment air intakes. Each Data Center is equipped with environmental sensors, including moisture sensors in the floor and ceiling, temperature sensors on the fronts and back of equipment racks (measuring input and output temperatures), and air humidity sensors, which

provide real-time environmental monitoring.

- Each Data Center is equipped with state of the art fire suppression systems. Smoke and heat sensors detect potential fires. Fire detection systems are monitored 24/7/365.

The Examiners performed certain testing related to logical security, specific to user access within certain of the Organization's critical IT applications. The IT examination team finalized a list of in-scope systems/applications based on information provided by the Organization. Logical security testing was performed for the following system levels/applications:

- Active Directory ("AD") level,
- Remote Access Control Facility ("RACF")
- Applications (Overall examination)
  - ISONet
  - Risk Analyzer (ISO)
  - Statistical Web Services
- Applications (PPC-specific)

The IT Examiners reviewed ISO's change management protocols related to the IT controls and safeguards to address protecting computer related information. In doing so, the IT Examiners confirmed that ISO's change management process is centralized and managed by the Organization's Software Configuration Management ("SCM") team, which coordinates changes through ISO's SDLC process. The IT Examiners relied on the work performed by the Verisk IA function for these controls and confirmed that the change management protocols were in compliance with ISO's written protocols and procedures. The IT Examiners noted that changes to the application portfolio are authorized, controlled and documented. Based on the testing performed, the IT Examiners noted that computer programs, databases, and files affected by user change requests are properly monitored, modified, tested and migrated to the secure production libraries.

The IT Examiners' review also confirmed that ISO utilizes a suite of tools, including IBM's Internet Security Systems, for intrusion detection. Further, it was noted that any potential security exceptions are logged for review by ISO's Security staff. Vendor provided tools are used to scan for application security vulnerabilities and all incoming email is scanned using vendor software. Based on the supporting evidence provided by ISO, the Organization appears to be properly scanning all incoming email for malicious content.

With the increasing growth of wireless access in today's business environment, the IT Examiners investigated ISO's safeguards and controls regarding wireless application and found that wireless access is limited to select employees and is encrypted using WPA2 security. Also, ISO's protocols include annual scans for rogue wireless access points. The IT Examiners reviewed supporting evidence of wireless access reviews performed by ISO.

Computer viruses and malware represent a great risk to any organization but even more so for businesses such as ISO, an entity that manages significant volumes of data. As such, the IT Examiners investigated and reviewed ISO's protocols and procedures, and found the Organization's potential detection and prevention is enabled at the server and workstation level. ISO has an established Virus Prevention Team, which works with the Organization's Operations and Security areas to evaluate risk and identify the appropriate actions to be taken. The IT Examiners obtained evidence that the virus definitions were up-to-date at the server and workstation levels.

During the review of the Organization's ITGCs, the IT Examiners reviewed and confirmed the following aspects:

- In accordance with Verisk's Enterprise Information Security Policy, sensitive data may not be transmitted outside of the ISO network unless encrypted. All Verisk laptops are encrypted for all customer financial information, property and casualty insurance data, personally identifiable information ("PII"), and protected health information ("PHI"). ISO's advisory organization and statistical agent functions do not handle PII or PHI. It appears the Organization has the proper protocols in place to ensure information is secured across the Internet.

- Facility access is restricted through the use of key cards. The employees must swipe the keycard at the door or lobby in order to access the office facility. If the employee does not swipe to enter the facility, an alarm will alert security. In addition to the keycards, the access points are monitored by video surveillance. It appears that the computer/communication facilities (e.g., computer room, network operations center, wiring closets, etc.) are secure and protected from hazards. In addition, access to the computer/communication facilities is restricted to only authorized personnel at all times.
- The Organization's network is protected by firewalls, and any changes to the firewalls must be processed through the formal change management process. Based on the testing performed, the Organization uses firewall technology to protect its internal network from unauthorized external access.
- Remote access to the ISO network is possible through a secure Virtual Private Network ("VPN"). Remote users utilize Secure ID hardware tokens for two factor authentication. (Hardware tokens are physical devices that display a PIN that must be entered in addition to the user's ID and password to access the ISO environment.) The explanations and documentation provided indicates that access to the Organization's network and computer systems is protected minimally with user IDs and passwords, based upon the sensitivity of the information and the requirements of the individuals.
- Finally, the Examiners confirmed that ISO has in place a formal Information Security Incident Management Policy, which covers ISO's initial response protocols and the notification and reporting of incidents.

**Standard 14: The advisory organization has a valid disaster recovery plan.**

**Results:** The Examiners reviewed documentation provided by ISO and conducted a process review and testing and as a result, determined that ISO appears to satisfy the requirements of Standard 14.

**Observations:** The IT Examiner's work included a review of ISO's Disaster Recovery Plan ("DRP"), which was last updated in March 2017 and the Organization's Business

Continuity (“BCP”) plans. The Examiner’s review of ISO’s DRP determined the following:

- ISO’s data recovery procedures are current and include testing that occurs at regular intervals throughout the year, with the Plan tested and updated on an annual basis. Review of the Plan’s test results confirms the Organization’s mainframe, which hosts all ISO critical applications including: statistical agent and ratemaking computer application programs, operating systems and data files were included in the Plan’s test. The Plan’s test result also contains names and roles of resources used in performing the test, these are the same resources that will be used in the event of a disaster to recover systems.
- Based on a review of the information provided, it appears the Organization is properly testing the plans and addressing matters that may be discovered during the testing.
- ISO has an inventory of critical business applications, databases and files, which is current, and the inventory is defined and prioritized for a recovery process.
- Critical business areas have developed manual recovery testing (off-site retrieval through restoration of a fully operational computing environment) on a regular basis. Based on a review of the information provided, it appears the Organization ensures its data is routinely backed up and replicated off-site.
- ISO’s DRP includes down time standards (i.e. recovery time objectives) for customer service “transactions.”

**Standard 15: *The advisory organization is adequately monitoring the activities of any entity that contractually assumes a business function or is acting on behalf of the advisory organization.***

**Results:** The Examiners reviewed documentation and related information provided by ISO and also conducted interviews with ISO resources. Based on inquiries to ISO, the Examiners learned the Organization does not have any contractual relationships involving an entity assuming a business function or acting on behalf of the Organization as these arrangements flow through Verisk. Further, based upon interviews conducted with ISO, the Examiners determined that ISO serves as the processor of the driving data as submitted by a driver and their respective insurer. ISO processes the data and submits the results to the insurer. As such, ISO’s telematics program does not entail the use of an entity that assumes a business

function on behalf of ISO. No concerns were noted with the Organization's telematics program reviewed under this Standard. (Note: Please also reference the Actuarial Examiners' Comments under Operations, Management & Governance Standard 2 for additional information regarding ISO's telematics program).

**Observations:** Although ISO confirmed they did not have any existing *contractual relationships where an entity is assuming a business function or is acting on behalf of the advisory organization*, ISO does have relationships with firms who provided staffing resources to the Organization during the Period. Consequently, the Examiners note the following specifically for reference. The IT Examiners reviewed the Organization's response to the 2017 CAA and conducted meetings with the Organization's IT employees to address Standard 15. Although ISO primarily utilizes internal staff for development, they also utilize staff from external vendors to augment their staff. The following external vendors were utilized during the Period:

- A vendor provided 12 developers over a period of six months to port Company Edit Package from COBOL to Java from their India facility.
- Subsequently, five vendor developers are providing maintenance on an ongoing basis; a vendor provided five staff members to augment ISO staff in Jersey City and two offsite developers are based in India;
- A vendor provided two architects for three months to support the development of the Statistical Data Warehouse;
- A vendor provided one developer for a two-month engagement assessing the Data Cube/Market Landscape environment. This was followed by another five-week engagement with three developers;
- One vendor staff augment developer; – One vendor staff augment developer; – One vendor staff augment developer; One vendor staff augment developer; and One vendor staff augment developer in the support organization.

The IT Examiners confirmed that ISO has appropriate protocols in place to onboard vendor resources, which includes the following:

- Offshore resources are trained on site for four (4) weeks to become acclimated to the

ISO environment.

- Verisk's IA performs a vendor review upon the initial contract that includes IT security controls.
- ISO's offshore resources access the Organization via VPN using their own computers and hardware tokens provided by ISO.
- ISO communicates its privacy and security requirements to all third party vendors and obtains a written agreement from such parties. The IT Examiners confirmed that Verisk's external auditor inspected a sample of contracts and confirmed they were appropriately executed by the third party vendor.
- Finally, the Examiners confirmed that offshore resources are dedicated by product line, and internal controls exist such that data cannot be copied from the vendor workstation. As an added control, ISO's production data is not accessible to vendors, and security logs are enabled providing an audit trail showing activities performed by vendors.

**Standard 18: *The advisory organization cooperates on a timely basis with examiners performing the examination.***

**Results:** During the course of the Examination, the Examiners requested data, documentation and related materials as well as requesting meetings and interviews with ISO resources. ISO provided all requested materials and facilitated scheduling meetings with the Organization's resources. However, in some instances, information was not always provided in a timely manner. Generally, these situations resulted when ISO staff involved with the Examination were on vacation, were ill or there were related matters. Unfortunately, in those instances, another resource was unable to step-in and address the Examiner's requests. Overall, the Examiners determined the Organization met the intent of Standard 18.

**Observations:** To assist in evaluating ISO's cooperation throughout the Examination, a request log was maintained that documented the date each request was tendered to the Organization, the date a response was due and the date on which the response was ultimately received. Additionally, regularly scheduled status calls and/or meetings were held, providing a means to discuss outstanding requests, Examination progress and immediate

needs of the Examination, including the timeliness in responding to the Examiner's requests. ISO's responses to requests were generally provided in a timely manner and the Organization's cooperation during testing, including that of data and system resources contributed to an efficient Examination process.

**Standard 19: *The advisory organization has developed and implemented written policies, standards and procedures for the management of insurance information.***

**Results:** The Examiners reviewed documentation and related information provided by ISO and determined that ISO appears to satisfy the requirements of Standard 19. Additionally, the Examiners were asked to review and comment on what the impact has been on ISO's operations regarding Verisk's role as the Organization's parent company. The following information discusses some of the related changes.

**Observations:** The Examiners determined that the most significant change related to Verisk's role as ISO's parent company related to the shared services platform, which Verisk provides to its affiliates, including ISO. The Examiners observed this relationship, specifically through the results of the work in addressing other standards during the examination. For example, the IT and Market Conduct Examiners completed a detailed review of ISO's IA procedures and functions, which are managed through Verisk's shared services. Additionally, the Examiners reviewed the Organization's policies, procedures and training programs that address the management of insurance information, which are supported by Verisk's shared service platform.

The Examiners' review of Verisk's and ISO's policies, procedures and training programs determined the following:

- Verisk, the parent Company of ISO, has a Privacy and Security Program (Program) that ISO has adopted. Since 2009, Verisk has been the parent company of ISO and other related affiliates. This structure allows for and provides shared services to all Verisk affiliates such as ISO. The Program is maintained by the Verisk Compliance and Security Council (Council). The program includes the following policies that are available to all employees: Global Privacy Policy; Workforce Information Handling Policy and Enterprise Information Security Policy Framework. These policies guide employees

regarding the proper handling of information.

- Each business unit also has additional policies and procedures regarding the protection and use of information. Verisk conducts periodic assessments in order to evaluate the effectiveness of a business unit's policies and procedures governing the protection and use of information.
- The Organization's Change Management Program requires senior management approval prior to providing an employee with access to ISO's mainframe applications, databases and other software. The objective is to ensure that an employee's access to information be aligned with an employee's responsibilities.
- The Organization has policies and procedures in place to review an employee's access to information on a periodic basis. As such, employees should only have access to information that is needed to complete assigned responsibilities.
- There are several training modules that employees must complete under the Program including the following topics: security awareness; incident reporting; phishing; and clean desk policy. Such trainings include in-person, on-line modules; or through a third party vendor's website. All new hires are required to complete the new hire orientation safety and physical security training and acknowledge receipt of the Global Privacy Policy. Finally, on an annual basis, each employee must acknowledge receipt of the Global Privacy Policy and complete the required privacy and security awareness training.
- On a periodic basis, Verisk distributes emails and information and security compliance newsletters regarding security and privacy related topics. These emails and newsletters serve as reminders to the information stated in the program.
- In general, ISO does not provide individual company information to any third party, except as may be appropriate with respect to insurance regulators or as required to do so under legal process or as otherwise permitted with respect to the individual Insurance Company.
- The Examiners also met with ISO's Assistant Vice President, Technology Operations, and ISO's Assistant Vice President, Development, to gain an understanding of IT Outsourcing and Offshoring at ISO. ISO communicates Verisk's privacy and security requirements to all third party vendors and obtains a written agreement from such parties.

## STATISTICAL PLANS

**Standard 1: *The statistical agent has filed its statistical plans in accordance with applicable statutes, rules and regulations.***

**Results:** ISO advised the Examiners that for the Period, there were no changes to statutes, rules or regulations that required revisions to the Statistical Manuals. The Examiners independently confirmed this information through inquiries and discussions with ISO's resources.

**Observations:** The Market Conduct Examiners issued data requests to address statistical plans ("Plans") utilized by ISO during the Period. The Organization informed the Examiners, that ISO Data, Inc. files two (2) Statistical Manuals in accordance with the applicable statutes, rules and regulations, most notably the NAIC Handbook of Statistical Data Available to Regulators. The filed Statistical Manuals that were in place during the Period include the Personal Lines Statistical Manual which was filed in each state in 2002; and the Commercial Lines Statistical Manual which was filed in 2006. The Examiners confirmed that ISO Data Inc. did not revise or file any revisions to the filed Statistical Manuals during the Period.

ISO advised the Market Conduct Examiners that it collects additional information from reporting insurers that is used primarily for ISO's ratemaking and research functions. This information is not required to be filed per the NAIC Statistical Handbook. ISO maintains three (3) such plans: the Commercial Statistical Plan; the Personal Automobile Statistical Plan and the Personal Lines (Other Than Automobile) Statistical Plan. Data required to comply with the filed Statistical Manuals is extracted from data collected for these three plans.

Based on the work performed by the Examiners and considering that there were no revisions to ISO's Statistical Manuals during the Period, it was determined that the Organization has the framework in place to address changes to its Statistical Manual when required.

**Standard 2: *The statistical plans are reviewed and updated in accordance with applicable statutes, rules and regulations.***

**Results:** The Market Conduct Examiners reviewed current documentation from ISO as well as discussing this Standard with representation of the Organization. As a result, ISO advised there were no changes to the Statistical Manuals during the Period.

**Observations:** ISO advised the Market Conduct Examiners that for the Period, there were no changes to statutes, rules or regulations that required revisions to the Statistical Manuals. However, ISO has documented procedures regarding reviewing of and making changes to statistical plans, including communicating the changes to statistical reporting insurers. Changes to the Plans are the result of a new law, a request within ISO or from another statistical agent such as Automobile Insurance Plan Service Office (AIPSO). ISO's Statistical Data Management Unit is responsible for managing the process regarding any changes to statistical plans.

**Standard 3: *The statistical agent verifies that companies submit data in accordance with the appropriate statistical plans.***

**Results:** The IT Examiners reviewed documentation provided by ISO and conducted a process review and testing and, as a result, noted that ISO appears to satisfy the requirements for Standard 3.

**Observations:** A procedural review was performed to address the Statistical Data Submission process. The IT Examiners obtained a current copy of the Statistical Handbook of Data Available to Insurance Regulators. The IT Examiners reviewed the Handbook and noted:

- The *Statistical Handbook* provides two intertwined sets of requirements – one for insurers, and one for statistical agents. The purpose of these requirements is to provide assurance that reports from statistical agents are acceptably accurate as representations of the insurance written and the losses incurred by insurers.
- Statistical agents are required to apply edits and checks to data received from insurers, and insurers are required to respond to the queries presented by statistical

agents. The reporting “requirements” contained in the Statistical Handbook reflect the minimum statistical compilation and report formats recommended by the NAIC Casualty Actuarial and Statistical (C) Task Force.

In response to the IT Examiner’s request for evidence of edits performed for the various data types, ISO provided documentation detailing the requirements, record layouts, and criteria for each data element in the various reporting statistical plans. The IT Examiners compared the required data elements from the Statistical Handbook with the data elements specified in the statistical plan documents and confirmed that the documents addressed the required data elements. In addition, the IT Examiners noted that the plan documents also defined the criteria for each data element.

- The IT Examiners, with the assistance of ISO personnel, performed observation procedures to address the above standards by inspecting the actual production data in the ISO systems. The Actuarial Examiners performed a review which included the evaluation of a sample of ISO prepared loss cost filings. Based on the review of the Actuarial Examiners, ISO loss cost filings span 15 categories which generally reflect different lines of business. From the population of loss cost filings during the Examination Period, the Actuarial Examiners made selections on a stratified basis by selecting a sample of at least one filing from each segment. For exam efficiency, the IT Examiners leveraged the sample used by the Actuarial Examiners. The IT Examiners selected the top 5 “segments” based on the population of Loss Cost filings and then selected 5 filers within each segment which resulted in 25 observation points. In addition, the IT Examiners reviewed 2 quarters of data (Q3 and Q4 of 2014) for a total of 50 samples.

Based on the sample of filers listed above, the IT Examiners inspected production data included in ISO systems and confirmed that the statistical data for the selected filers was submitted for the selected quarters. The following were also confirmed:

- the edits were performed,
- the data was reviewed,
- anomalies in the data were communicated to the filer,
- if corrections/updates were made to the data, it was re-submitted to ISO, if applicable

Additionally, the IT Examiners selected filings from each of the following segments to reconcile back to the source system(s) at ISO:

- Commercial Property
- Business Owners
- General Liability

The IT Examiners selected a value from each filing and obtained evidence showing that the data in the documented filing matches the data from the ISO database. The IT Examiners selected data elements from the applicable filings and confirmed that the items in the documented filings could be traced back to the relevant databases at ISO.

ISO has an automated follow-up reminder feature within its data quality inquiry repository, defaulted to every two weeks, in order to ensure timely follow ups with insurers that have delinquent submissions or material errors that affect other statistical and actuarial compilations.

The IT Examiners confirmed by observations of ISO systems and inquires of ISO's IT resources, that for every company submission, a unique job number is assigned, and information specific to this job is stored in a submission control file. Information about the job, including each module submitted and the status of each module, is included on the submission control file. The status of the module provides information on whether error correction is required by the company submitting the statistical data in any module. Customers are first notified of the status of each module in their submission on the edit report page. They are given time to make the corrections, and then e-mail notifications are generated to companies who are delinquent at that point. Based on the review of the Statistical Data Submissions for the filers in the sample, the IT Examiners confirmed that the Statistical Plan Data for the filers was received on time and without significant issues.

## **DATA COLLECTION AND HANDLING**

The review of the related Standard for Data Collection focused on the IT Examiners confirming whether the Organization adequately tests reported data for validity, completeness and reasonableness. The areas to be considered in this type of review include

data quality, data checking procedures and edit programs consistent with Standard 4.

**Standard 4: Determine that statistical data is reconciled to the State Page Exhibit of Premium and Losses, Statutory Page 14, of the NAIC Annual Statement on an annual basis.**

**Results:** The IT Examiners reviewed documentation provided by ISO and conducted a process review and testing and, as a result, noted that ISO appears to satisfy the requirements for Standard 4.

**Observations:** The IT Examiners reviewed this Standard while reviewing Statistical Plans Standard 3 as noted in the Section above. In addition, the Examiners note the following in reference to Standard 4:

The IT Examiners noted in ISO's response to the CAA document that ISO's standard practice is that companies who report statistical data to ISO are required to reconcile their data on an annual basis. ISO compares (by state, annual statement line and type of statistic) the calendar year statistically reported data with the Statutory Page 14 financial information of an insurer group's annual statement, for all states and lines where ISO is an appointed Statistical Agent. In addition, the IT Examiners noted that for the Annual Verification, differences between the financial and statistical data greater than 1% and \$5,000 are required to be reconciled. All accepted data, both valid and invalid records, are included in the ISO submitted amounts. For the Annual Verification of Countrywide data, the financial information comes from AM Best. For Texas, the financial data is provided by the Texas Department of Insurance.

During the walkthrough of the filers from the previous procedure, the IT Examiners observed that the reconciliation of the reported amounts to State Page 14 is documented in ISO.net. For each of the samples selected, the IT Examiners viewed the Statutory Page 14 amounts within the ISO systems and confirmed the reconciliation of the ISO data to the NAIC data (reported by AM Best) for Premiums and Losses which is the data on Statutory Page 14 (the IT Examiners also obtained screenshots showing the State Page 14 amounts). The IT Examiners confirmed that any differences were less than the amounts which are required to

be reconciled. In addition, the IT Examiners confirmed that the amounts shown in ISOnet as reported from AM Best, were accurate.

## **CORRESPONDENCE WITH INSURERS AND STATE REGULATORS**

The scope of this area of the Examination focused on reviewing information to confirm the following:

- Does ISO promptly notify the statistical reporting insurers (and regulators, as requested or required) when an issue or question regarding data is identified,
- What follow up is conducted with the statistical reporting insurer whose data is problematic,
- If the statistical reporting insurer does not respond within the appropriate time frame.

Please note the following Standards are discussed under the Inspection Services Section where the review for these Standards are summarized.

**Standard 1: *The statistical agent keeps track of companies that fail to meet deadlines.***

**Standard 2: *The statistical agent has established procedures for notifying companies (and regulators, as requested or required) of material errors and for correcting those errors.***

**Standard 3: *The statistical agent maintains a follow-up procedure with companies that have reporting errors or questions.***

**Results:** The IT Examiners reviewed documentation and related information and conducted a process review and performed testing to address the Standards as referenced above. Based on the IT Examiners' work completed, it was determined that ISO appears to satisfy the requirements for Standard 1, Standard 2 and Standard 3.

**Observations:** A procedural review and detailed testing was performed to address the above referenced Standards.

## REPORTS, REPORT SYSTEMS AND OTHER DATA REQUESTS

The Reports, Report Systems and Other Data Requests aspect of the Examination focused on the IT Examiners' review of ISO's reports and other statistical compilations prepared for state regulators, as well as confirming the Organization's internal procedures for preparing reports and responding to data requests, including the timeliness and quality of the response.

**Standard 4: *Data collected, in addition to the data collected under the statistical plan, was adequately reviewed for quality and compiled according to applicable statutes, rules and regulations.***

**Results:** The IT Examiners reviewed documentation provided by ISO and conducted a process review and testing and, as a result, noted that ISO appears to satisfy the requirements for Standard 4.

**Observations:** A procedural review was performed to address the reports, report systems and other data requests process. The IT Examiners reviewed this Standard while reviewing Statistical Plans Standard 3 as noted in the Section above. In addition, the Examiners note the following in reference to Standard 4:

In ISO's response to the NAIC CAA, the Organization notes that ISO has a defined, ongoing process for reviewing statistical reporting rules, regulations, report specifications, and other statistical reporting information developed by State DOIs as well as related organizations such as NAIC. ISO's National Affairs Division monitors changes in statutes, regulations and/or rules, and evaluates whether any such developments might have impact upon the data collected in the statistical plans. It then informs the internal Data Collection and Regulatory Reporting area of such impacts. Data Collection and Regulatory Reporting staff then analyze these developments, and when necessary craft statistical plan reporting modifications in support of these changes. Reporting modifications are then assimilated into the standing statistical plan. Any reporting change is announced and explained via a circular bulletin, distributed to a wide audience of data reporters and accompanied by updated statistical reporting instructions.

Based on ISO's responses to our inquiries, the IT Examiners noted the following relative to the data review process at ISO:

- The annual verification is the procedure by which statistically submitted data is compared to financially reported data. Data is reconciled each accounting year and is compared by state (including state-specific data), annual statement line and type of statistic.
- For the closeout processing, multiple reconciliations are performed based on balancing control reports at various points in the process.
- To verify that accurate data is extracted, various data quality reviews such as distributional analyses, call-to-call checks and reasonability tests are performed on the specific compilation required.

The IT Examiners, with the assistance of ISO personnel, performed procedures to address the above standards. From the sample of 26 loss cost filings described above, the IT Examiners inspected documentation showing that the call-to-call analysis and “handoff” meetings were performed for all of the samples, confirming that the data is reviewed for quality prior to be submitted to the actuaries. Based on the review of the document, the IT examiners confirmed these analyses were performed after the data was received by ISO and before the data is handed to the actuaries for their analysis.

### **RATEMAKING FUNCTIONS**

The purpose of this aspect of the Examination was to review ISO's loss cost reports and reporting systems, as well as its internal procedures for preparing related reports and responding to data requests, including the timeliness and quality of the response.

**Standard 1:** *The advisory organization submits filings and/or submissions to the state within the established time frame. Please note this Standard was expanded to include the following questions from a Lead or Participating State: 1. Why has the ISO Inland Marine Handbook not been filed in SERFF.*

**Results:** The Actuarial Examiners confirmed that the Organization does not “make rates”, rather, the Organization prepares advisory prospective loss costs. The Actuarial Examiners reviewed documentation and related information and conducted a process review and performed testing. The IT Examiners note that ISO appears to satisfy the requirements of Standard 1. The Examiners also discussed the inquiry associated with Standard 1 regarding

how the Organization addresses Inland Marine. ISO prepared a written response, which is included under Observations.

**Observations:** The Actuarial Examiners reviewed the Organization's process for submitting filings to Departments of Insurance and note the following:

- Filings are made on SERFF or other state-approved filing systems.
- ISO's Regulatory Correspondence Tracking System is used to record and monitor the status of all inquiries that are made by a DOI analyst that is reviewing the filing.
- A sample of 51 loss cost filings were reviewed as noted under Standard 2 of the Operations, Management and Governance Section, and the Examiners did not identify any untimely responses to a regulator's inquiry.
- ISO's Publication Support Division workflow process focuses on the accuracy of the publication of the policy forms and manuals included in filings, including introduction of new or revised policy forms or manual pages in compliance with the filed material that was approved by the DOI.
- With regard to the Lead or Participating State inquiry regarding how ISO addresses the Inland Marine Handbook in SERFF, the Organization provided the following response, which is quoted as provided to the Examiners, and as follows:

*"Several states have statutory or regulatory provisions that generally recognize that there are certain inland marine classes – what we refer to as "non-filed" classes – where insurance rates and/or forms are not subject to the standard filing requirements. An example of this can be seen in New Jersey. In that state, N.J.S.A. 17:29AA-6 generally requires that insurers file copies of commercial lines policy forms for approval with the commissioner at least 30 days prior to becoming effective. Likewise, N.J.S.A. 17:29AA-5 generally requires the filing of commercial insurance rates and supplementary rate information not later than 30 days after becoming effective. However, both of those statutes contain exceptions with respect to "special risks." Under N.J.S.A. 17:29AA-3, special risks are defined, in part, to include "inland marine insurance"*

*Our understanding is that, historically, these types of filing exceptions have been designed to generally recognize the unique nature of the risks that fall within the "non-filed" classes, often classes which, by general custom of the business, are not written to filed manual rates or rating plans. Therefore, understandably, the purpose of the Handbook is to generally provide insurers with material for classes that are not included in Division Eight – Inland Marine of ISO's filed Commercial Lines Manual.*

*However, notwithstanding any filing exemptions that may exist, since the inception of the Inland Marine Handbook (IMHB) in 1999, Insurance Services Office, Inc. (ISO) has submitted the material contained in the IMHB on an "informational basis" to regulators in those jurisdictions that accept informational submissions.*

*Our informational submissions, some of which are submitted via SERFF, indicate that, consistent with the history and background described above, the Inland Marine Handbook is intended as a resource that can assist insurers as they develop the coverage and rating needed to address classes which, by general custom of business, are not written according to manual rates and rating plans. We expressly indicate in our informational submissions that we are not filing on behalf of any insurer. Since the existence of related filing exemptions, or the extent thereof, can vary by state, we note with our informational submissions that if an insurer elects to use all or any part of the Handbook, the insurer is responsible for complying with any applicable regulatory requirements. Likewise, we inform our insurer customers that we have not filed the related Inland Marine Handbook material on behalf of insurers in any state or jurisdiction.*

*We further indicate that the product is available for insurer use, subject to insurer compliance with any applicable statutory or regulatory requirements."*

**Recommendations:** The Examiners recommend ISO's response be directed to the inquiring state(s), and confirm their review.

## **CLASSIFICATION AND APPEAL HANDLING**

<p><b>Standard 1:</b> The advisory organization takes adequate steps to finalize and dispose of the classification appeal in accordance with applicable statutes, rules and regulations, and written manuals and procedures.</p>
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**Results:** This Standard was addressed in concert with the targeted review of the Organization's PPC risk classification evaluation process performed by ISO field representatives. Upon inquiry from the Examiners, the Organization confirmed they do not have a formal appeal process in place, but rather, a formally defined retrogression process exists. A retrogression occurs when a Fire Department participates in a PPC evaluation conducted by ISO FRs, and the calculated risk classification grade is less favorable than the Fire Department's prior PPC Grade. As such, the Fire Department's current risk classification score is deemed as a retrogression from its prior risk classification grade. The Market Conduct Examiners reviewed documentation and related information provided by ISO and conducted interviews noting that ISO meets the requirements of Standard

**Observations:** A procedural review, which included a process walkthrough with ISO

National Processing Center (NPC) employees, was performed to determine the Organization's compliance with Standard 1. The Examiners note the following:

- The ISO FR completes a PPC risk classification evaluation for each Fire Department by utilizing the Organization's CMCI. CMCI interfaces with CMDB and a PPC Grade is developed.
- The NPC reviews each PPC Grade to determine if a Fire Department's new score is less favorable than their prior PPC score.
- If a less favorable grade is identified, the NPC will conduct a Quality First Review that entails reviewing the PPC risk classification that was submitted by the field rep to determine if a retrogression has occurred. As such, the NPC ensures that the field rep provided responses for all components of the FSRS which includes information regarding the community's emergency communications, Fire Department, water supply and community risk reduction efforts. The NPC also conducts a detailed review of publication data elements including fire protection area boundaries, fire station locations, fire hydrant locations and Fire Department automatic aid.
- Once a retrogression has been confirmed, the NPC will contact the fire chief by phone to discuss the retrogression and the steps the Fire Department must achieve in order to retain their prior grade. The primary goal of the retrogression process (process) is for the community to restore its prior grade with the Organization's support and assistance. The NPC also sends this information in writing to the fire chief. The Fire Department has 30 days to decide if they will participate in the retrogression process. During this time, the Fire Department also has the opportunity to correct erroneous information.
- The Fire Department must submit a detailed action plan specifying the steps the community will take to regain their prior grade. This plan must be provided to ISO within 60 days of the date the community advised ISO that they will participate in the process.
- If a Fire Department decides to participate in the process, a retrogression analyst is assigned to the Fire Department and this individual will work with the fire chief to discuss areas of the current risk classification evaluation. The community has 12 months to complete the retrogression process during which time the ISO analyst provides on-going support.

- The community must complete all required actions to restore their prior grade or make other changes that afford enough points to regain their grade. The retrogression analyst will review all documents provided by the community that illustrate the steps taken as specified in the action plan. If all requirements were met, the Fire Department will maintain their prior grade. If a community is unable to complete their action plan within 12 months, they can request a new PPC risk classification evaluation be performed after all action plan requirements are met.

**Recommendation:** As noted above, the results of a PPC risk classification evaluation are presented to Fire Chiefs and any concerns regarding their PPC risk classification grade can be discussed. However, this is an informal process that entails discussions between the individuals involved in the PPC risk classification evaluation or NPC staff. The Organization should consider a formalized appeal process where Fire Chiefs can discuss their PPC risk classification score with an ISO Appeal Panel that would be comprised of ISO PPC employees. In doing so, ISO and Fire Chiefs would have the opportunity to have direct conversations, where appropriate to assist in resolving classification matters. Also, the Organization should monitor the results of the appeals in order to identify trends that may result in potential changes to the PPC program and/or additional field representative training.

## **INSPECTION SERVICES**

<p><b>Standard 1:</b> The advisory organization conducts inspection services in accordance with applicable statutes, rules and regulations, and written procedures.</p>
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**Observations:** The Organization noted within their response to the 2017 CAA that the Organization does not conduct inspection services.

**Results:** The Market Conduct Examiners confirmed that the Verisk website states that ISO does not perform inspections. As such, this Standard only applies to the Organization's PPC risk classification evaluations that are performed by ISO's FRs as discussed later in the Report under Section IX.

## **B. REVIEW OF CHAPTER 25 APPENDIX F AND G**

### **MANAGEMENT AND ORGANIZATIONAL CONTROLS**

As previously noted, the scope of the Examination included a review by the Examiners of certain aspects of Appendix F and Appendix G to Chapter 25 and certain additional areas of review as requested by the Working Group. Although Appendix F does not include specific Standards, the Appendix does identify areas to be included in an examination of an Advisory Organization.

The Examiners conducted a procedural review, including a process walkthrough with ISO key employees, as well as performing testing to address the areas of Appendix F as follows:

#### **a. Management & Organization**

The purpose of this aspect of the Examination is for the IT Examiners to review the organizational structure to confirm that appropriate segregation of duties is maintained to help prevent mistakes, errors or potential fraud. The Examiners confirmed that the Organization has processes and systems in place for ensuring and maintaining segregation of duties.

**Results:** The IT Examiners reviewed documentation and related information and conducted a process review and testing. The IT Examiners note that the Organization appears to satisfy the requirements of this area.

**Observations:** The IT Examiners determined that ISO does not have an independent IT function, but rather Verisk is organized in a hierarchical structure with the Chief Information Officer (“CIO”) having overall responsibility for Information Technology. The IT organization for Verisk is considered a “shared service” among the Verisk business units, which would include ISO. The CIO has direct reports, including six (6) Department Managers and the CIO - Insurance Solution, which is where ISO is aligned. In addition, the IT Examiners confirmed that the IT Department is independent of all operating units for which it performs data processing functions.

Verisk's IA performs an annual risk assessment to determine the scope of audits for the year. The IT Examiners obtained and reviewed various reports issued by Internal Audit during the exam period. Additionally, the Examiners confirmed that Sarbanes-Oxley Section 404 testing is performed annually by Deloitte in conjunction with the financial audit of Verisk. Also, a SOC report covering the processing controls at the data centers is generated by an independent firm, Habib, Arogeti, and Wynne, LLP. The IT Examiners obtained and reviewed the report for 2016 which indicates there are adequate controls over the Organization's systems. Based on the review of documentation and the results of process reviews and testing where conducted, the IT Examiners note that ISO appears to be addressing the Management & Organization areas of Appendix F to Chapter 25.

**b. Physical Security**

In this section, the IT Examiners review the Organization's physical security systems. During the period covered by this IT examination summary memorandum, both the Eastern and Western Data Centers migrated to new facilities. The Eastern Data Center moved from Verisk's Jersey City, New Jersey facility to a third party data center. The IT Examiners confirmed that the Organization has processes and systems in place for ensuring and maintaining physical security.

**Results:** The IT Examiners reviewed documentation and related information and conducted a process review and performed testing. The Examiners note that ISO appears to satisfy the requirements of this area.

**Observations:** A procedural review, including a process walkthrough with ISO key employees, as well as detailed testing were performed to address this area. The IT Examiners performed a walkthrough of ISO's computer facility and noted the Organization appears to have in place established physical security safeguards. The IT Examiners confirmed that physical security requirements regarding ISO's Data Center are formally documented in the Organization's Information Security Policy. The Policy outlines ISO's user access procedures for the data centers and

confirms that these user access requests must be formally approved by management.

**c. Logical Security - User Access – System Software**

The Organization's logical security at the system/network level was reviewed in this area. The Examiners confirmed that the Organization has processes and systems in place for ensuring and maintaining network-level logical security.

**Results:** The IT Examiners reviewed documentation and related information and conducted a process review and performed testing, noting that ISO appears to satisfy the requirements of this area.

**Observations:** The IT Examiners confirmed ISO's password configuration procedures, which are documented within the Enterprise Information Security policy. The Examiners confirmed that ISO's passwords are:

1. Required to expire after 60 days,
2. Be a minimum of 8 characters in length and
3. Include a combination of alpha, numeric and special characters

The IT Examiners reviewed the SOC report and confirmed that the external auditor ensured that these configurations are set within the in-scope ISO systems consistent with the Organization's policy. Finally, the IT Examiners verified in "real-time" that passwords are masked upon user login by observing the Organization's IT resources onsite at ISO's office in Jersey City.

In addition, the Service Desk team oversees logical access to computer resources including applications, networks, and infrastructures. Team members process requests for new and modified access to resources. The respective resource owner, along with the requestor's supervisor, authorizes resource requests. Resource owners grant access based on need to know and commensurate with job responsibilities. Upon termination of an employee or contractor, the department manager and Human Resources notify the Security Administration team, which removes access. In addition, the team reevaluates employee and contractor access

level upon change of job responsibilities. Owners and department managers confirm access quarterly.

The SOC report was reviewed, confirming that the external auditor ensured access was approved and restricted to the minimum levels necessary. Additionally, the IT Examiners noted that user access recertification was also tested internally by Internal Audit, through obtaining and examining Verisk's IA's testing in this area. The IT Examiners also reviewed ISO's procedures for handling employee terminations specific to user access. The SOC report confirms that the external auditor ensured timely removal of terminated users from ISO systems.

ISO's protocols and procedures related to privileged user access were reviewed, confirming that ISO allocates administrative access to individuals based on job function. In addition, the IT Examiners noted that ISO tracks administrator level system activity, which logs the tasks performed and is reviewed regularly by the Organization's Security group. Finally, the IT Examiners confirmed that ISO's Information Security management reviews administrator level access at the operating system level twice per year to ensure it remains appropriate.

**d. Logical Security - User Access - Applications**

The IT Examiners reviewed the Organization's logical security at the application level. Since the controls at this level rely heavily on the network controls, this testing was combined with the system/network logical access. Testing confirmed that the Organization has processes and systems in place for ensuring and maintaining application-level logical security.

**Results:** Documentation and related information was reviewed, and the IT Examiners conducted a process review and performed testing, noting that ISO appears to satisfy the requirements of this area.

**Observations:** The IT Examiners conducted a review of ISO's password configuration procedures and confirmed the following:

- ISO uses a consistent database flat file across all business unit applications.

- The files are stored in the ISO mainframe and are protected by RACF security.
- The level of user access is determined based on the profile they are assigned as established by the individual ISO business unit.
- User access to the mainframe is administered by the Security group.
- At the ISO application level, access is defined in the Organization's Application Subsystem. Each authorized user of the application must be uniquely defined within the application.
- Access to ISO's ratemaking applications is controlled through a common intranet URL (ISOnet) which presents a customizable web based user interface.

e. **Logical Security - Security Monitoring and Management**

The IT Examiners confirmed that the Organization has logical security monitoring processes and systems in place for performing and maintaining network/application-level monitoring, as well as emergency response procedures to follow if a computer security incident occurs.

**Results:** The IT Examiners reviewed documentation and related information and conducted a process review and performed testing, noting that ISO appears to satisfy the requirements of this area.

**Observations:** ISO has an intrusion detection system in place which provides continuous monitoring of the network. The intrusion detection system uses a detection engine and event correlation technology to identify suspicious traffic patterns that may indicate a network compromise or other network-based threat. The IT Services Operations Teams monitor network intrusion detection system alerts. Firewalls protect the Internet-facing infrastructure and applications.

The firewalls restrict access between networks and allow access only to specifically configured services. Multiple firewall devices at the access points into the network prevent intrusion, limit accessible services, and isolate the network from those of

customers and other third parties. To protect against malware and viruses, software monitoring filters inbound Internet traffic for malicious content, including virus vectors. An e-mail service removes spam messages and quarantines potentially malicious e-mail. A protocol, called transport layer security, encrypts e-mail communications. The Data Centers receive and transmit data only through encrypted or physically secured channels. An independent third party conducts quarterly testing of the network. Management reviews the results and oversees the implementation of the penetration testing.

To prevent data leakage, the encryption process protects the confidentiality and integrity of information owned by and entrusted to the Data Centers. The following are all common industry standards related to the encryption of information in transit, including but not limited to: Secure Sockets Layer (“SSL”), Transport Layer Security (“TLS”), Secure File Transport Protocol (“SFTP”), and Pretty Good Privacy (“PGP”) technologies.

The Examiners confirmed through their review and related work that ISO has established formal incident and problem management procedures, which include roles and responsibilities, severity levels, entry and exit criteria, and status reporting. The Examiner’s testing included obtaining and reviewing information related to ISO’s documented procedures. Based on the review of documentation and the results of processes reviews and testing where conducted, the Examiners note that ISO appears to be addressing the Logical Security areas of Appendix F to Chapter 25.

**f. Change Management**

The IT Examiners confirmed that the Organization has processes and systems in place for managing changes to its suite of applications and the underlying operating systems/databases.

**Results:** The IT Examiners reviewed documentation and related information and conducted a process review and performed testing, noting that ISO appears to satisfy the requirements of these requests.

**Observations:** Software development activities are carried out and managed at the business level. Each of the operational business units are responsible for the design, development, and testing of their respective applications. Once sufficient testing is completed, all changes are passed through Quality Assurance (“QA”) testing. Upon completion of QA testing, changes and updates are packaged and submitted for approval via the Change Management Services Program. The Change Management staff brings a combination of valuable skills to the Organization. A Change Advisory Board governs the team. The Change Advisory Board reviews all infrastructure changes and assures that all guidelines are being followed. This group represents all infrastructure and most development teams. The Change Advisory Board is responsible for reviewing and assessing the impact of all changes.

ISO has a Software Configuration Management (“SCM”) group for deployment of changes to acceptance and production. SCM is an independent group that works with the line of business units and developers to deploy changes. Further, the IT Examiners confirmed that ISO uses Computer Associates Service Desk Manager for tracking changes to all applications. The developer builds the change request for which ISO will assign resources. The QA area reviews the change information to ensure all required items are included.

As noted above, the IT Examiners placed reliance on the work of Internal Audit and the external auditor who performed the testing for the SOC report for certain controls. The IT Examiners noted that sample changes were reviewed and tested to ensure the changes followed the documented Software Development Life Cycle (“SDLC”), guidelines established as part of the Organization’s change management process. Based on the review of documentation and the results of processes

reviews and testing where conducted, the IT Examiners note that ISO appears to be addressing the Change Management areas of Appendix F to Chapter 25.

**g. Disaster Recovery/Contingency Planning**

The Organization's processes relative to coordinated business continuity and disaster recovery were reviewed in this section. The Eastern Data Center is the primary disaster recovery site for the Western Data Center. The IT Examiners confirmed that the Organization has processes and systems in place to ensure that the transition to the BCP and/or DRP is seamless.

**Results:** The IT Examiners reviewed documentation and related information and conducted a process review and performed testing, noting that ISO appears to satisfy the requirements of this area.

**Observations:** The Corporate Risk and Compliance group oversees the development of a coordinated business continuity and disaster recovery plan ("the plans") to enable proper action before, during, and after an emergency affecting the Data Centers. The plans ensure that the transition to the BCP and/or DRP is seamless and that service to customers will continue to meet expected levels. IBM Business Recovery and Resiliency Services is the vendor that supplies the primary disaster recovery site. IBM provides the infrastructure and equipment necessary in the event of a disaster. The services include network connectivity, infrastructure, processors, servers, storage, distributed systems, and workstations.

ISO's Business Continuity and Disaster Recovery management conducts at least two production recovery simulations on an annual basis. In addition, a series of mini tests occurs every year. Those tests include:

- administrative review of plan procedures
- paper tests ("tabletops") to gauge participants' understanding of roles and responsibilities
- partial tests of recovery capabilities at the recovery site

As noted above, the IT Examiners placed reliance on the work of Internal Audit and the external auditor who performed the testing for the SOC report for certain

controls. Based on the review of documentation and the results of processes reviews and testing where conducted, the IT Examiners note that ISO appears to be addressing the Disaster Recovery/Contingency Planning areas of Appendix F to Chapter 25.

**h. Operations and Processing Controls**

The Organization's processes relative to the completeness of processing were the focus of this area. The Organization has processes and systems in place to ensure that the data processed by the Organization is complete.

**Results:** The IT Examiners reviewed documentation and related information and conducted a process review including applicable testing, noting that ISO appears to satisfy the requirements of these requests.

**Observations:** The IT Examiners learned that Production Services follows strict procedures in the delivery of products. In addition, ISO's Operations team meets weekly to discuss new and ongoing issues and problems that occurred during the prior week.

Data quality activities include: field validity and field relationship edits; basic checks, such as balancing control totals; and additional checks, such as reasonability tests on aggregate data. In addition, the review process for aggregate data employs the judgment of actuaries and actuarial analysts' familiar with insurance coverage and data as well as the external environment that can affect such data. The various data quality reviews ensure the proper use and interpretation of the data in the downstream processing and development of information-driven products. Also, the IT Examiners performed testing to validate job processing controls are in place and operating effectively. Based on the review of documentation and the results of processes reviews and testing where conducted, the IT Examiners note that ISO appears to be addressing the aforementioned areas of Appendix F and Appendix G to Chapter 25.

## **IX. REVIEW OF ISO'S PUBLIC PROTECTION CLASSIFICATION PROGRAM AND SURVEY**

ISO is responsible for evaluating the effectiveness of fire suppression measures related to in excess of 40,000 fire protection areas throughout the United States. In doing so, the Organization has developed a formal risk classification process, identified as the PPC review process. Please reference Appendix C, which provides an overview of the Organization's PPC classification distribution. Elements of PPC are discussed as follows:

To determine a community's Public Protection Classification, ISO begins the process by conducting a field survey. ISO's FRs visit the communities to observe and evaluate features of their fire protection systems. Using the PPC manual (FSRS), ISO evaluates four major areas:

- Emergency communications systems - A review of the emergency communications systems that focuses on the community's facilities and support for handling and dispatching alarms for structure fires.
- Fire Department - A review of the Fire Department that focuses on a community's fire suppression capabilities. Some of the areas which are measured include: engine companies, ladder or service companies, deployment of fire companies, equipment carried on apparatus, pumping capacity, reserve apparatus, company personnel, and training.
- Water supply - A review of the water supply system where ISO evaluates the community's water supply system to determine the adequacy for fire suppression purposes. Also considered are hydrant size, type, and installation, as well as the frequency and completeness of hydrant inspection and flow-testing programs.
- Community risk reduction – A review of the community's risk reduction efforts that takes into account fire prevention code adoption and enforcement, public fire safety education, and fire investigation.

Next, after completing the field survey, ISO analyzes the data and calculates a PPC grade. The survey process is documented through the Community Mitigation Classification Infrastructure (CMCI) application. All PPC surveys are tracked in the CMCI Processing Queue, and the status is updated accordingly by NPC analysts when the review is complete. Based on the NPC analysts review, the surveys can be returned to PPC Field Staff for revisions or review. If required, the NPC analysts are also able to make revisions to surveys. Upon completion of processing, the survey is approved and logged in CMCI and the survey is transferred to the CMDB.

For quality assurance purposes, a sample of completed surveys (approximately 2/field rep/quarter) are selected to complete a 20-point Quality First Review. The quality review process summary consists of confirming:

- Basic Survey Information – Contacts, Classification type, community listings being updated
- Presence of data being used in survey and currency of data
- Detailed review of CMCI application modules (ECC, Fire, Water, CRR, and NFF elements)
- Detailed review of publication data elements including Fire Protection Area boundaries, fire station locations, fire hydrant locations, automatic aid, and community-specific footnotes to be published in CMC Manual Plus
- Prior to approving updates entered into the CMDB, a final review is performed. If no issues are found, the updates are approved for publication. When a publication cycle is closed, the updates for that cycle are moved into CMDB and all related products are updated. Updates made in CMDB are migrated to the CMC Manual Plus product accessed through ISOnet. CMC Manual Plus is the application which is used to generate the formal publications.

Additionally, details concerning the Organization's PPC process include the following:

- ISO assigns a unique CMCI number for each Fire Protection Area (FPA). FPAs are comprised of one or several Fire Departments. For example, a FPA may include Fire Departments that were initially independent entities that later merged with another Fire Department. Also, a FPA may include several Fire Departments, responsible for multiple communities and counties.

- ISO confirmed they have 87 Field Representative positions on staff, located throughout the United States, who are responsible for performing PPC reviews for Fire Departments utilizing the FSRS. Many of ISO's FRs have a Fire Department, fire protection or dispatch background, while some also possess certifications such as Certified Fire Inspector or Certified Fire Protection Specialist. FRs perform reviews of communities within their state of residence/region, and also for other assigned FPAs.
- When the Organization hires new FRs, the individuals receive on-going training through their first year, which includes instruction on how to gather information and complete ISO's CMCI database utilized for a PPC review. Training also includes a one-week in-house training class, which addresses each component of ISO's FSRS.
- Following training, new hires are paired with a mentor FR for six to eight months during which time the new FRs begin evaluating small communities, and progress to reviewing larger fire operations. ISO also provides training for tenured FRs, which occurs when changes are made to the PPC review process. For example, the Organization conducted on the job training for all FRs when changes were made to the FSRS in 2012 and 2014.
- In 2012, the Organization established a goal to perform a PPC review for each Fire Department every five years. ISO representatives informed the Examiners that by the end of 2017, they anticipate completing PPC risk classification evaluations for 90% of the FPAs. PPC review schedules are established each year by ISO. The Examiners learned that the five-year timeline does not apply to all communities. For example, ISO provided the Examiners with a listing of 290 FPAs that elected not to participate in the PPC risk classification evaluation. As a result, there are FPA's that have not been reviewed by ISO in several years, with some classification evaluations dating back to 1982 while others were completed in the 1990s and early in 2000.
- The FRs utilize ISO issued laptops that are equipped with the CMCI database utilized to perform a PPC risk classification evaluation. FRs enter a Fire Department's information regarding their emergency communications, Fire Department infrastructure, water department, and community risk reduction. The PPC risk classification score is derived based upon the information entered by the FR. ISO has 11 PPC risk classifications as follows: 1, 2, 3, 4, 5, 6, 7, 8, 8B, 9 and 10. A "one" classification is the most favorable, indicating that a Fire Department has a strong fire

mitigation infrastructure in place to address fire related risk, while a classification of “10” is at the other end of the spectrum as being the least favorable classification. A 10 classification identifies that an evaluation determined that the Fire Department has a weak fire mitigation infrastructure in place to address fire risk or the community does not meet the minimum criteria of the FSRS.

- During the review, the FR inspects the Fire Department engines and related equipment, including the pump capacity for each engine. Training records are confirmed for each member of the Fire Department.
- When possible, the FR will perform the Water Department review with the community’s water superintendent, which routinely involves reviewing the water supply system to confirm the size and capacity of fire hydrants, and capacity, flow testing, and fire hydrant testing records.
- The Emergency Communications and Community Risk Reduction areas of the review, account for 15.5 of the total review points. The Examiners understand from discussions with FR’s that the on-site PPC review process generally involves from several hours to several days based on the size and complexity of the FPA.
- During review process, The FR will discuss the scope of the review and initial observations as well as next steps for the review. Additionally, the FR may provide high level suggestion for improvements with community officials. Once completed, the FR submits the CMCI to the NPC.
- Finally, the NPC will communicate the results of the PPC review and risk classification to the fire and/or community officials.
- If a retrogression is identified by the NPC analyst, the community will follow the process as stated under Standard 1 of the Classifications and Appeals Section of this Report. If the community experiences an improved PPC classification or there was not a change in their risk classification, a formal report will be issued as part of the PPC Publication Process.
- The PPC Publication Process, is performed by ISO’s NPC, whereby the NPC analyst reviews the completed PPC to verify all outstanding issues as identified by the NPC analyst during the Quality First Review have been addressed. Issues identified by the analyst are returned to the FR for review and follow-up.

- Once all issues are addressed, a formal PPC Report is issued to the fire and community officials. The PPC Report what is significant information regarding the PPC review and what is required to receive maximum points in each category; however, the report doesn't include guidance regarding how a community may attain the maximum number of points in a review category.
- The review report includes information regarding ISO's Fire Chiefs Online Program where Fire Chiefs can learn more about the PPC classification process. Also, ISO's website is identified where additional details regarding the PPC program reside. Additional assistance is available by calling the NPC through ISO's toll free number provided in the report.
- ISO utilizes in-house software identified as ISONet which is updated with the results of the PPC review and risk classification. The PPC process is also communicated to ISO's member insurers, utilizing the Organization's ISONet.
- ISO also provide support to the Fire Departments, which may include providing PPC related training to fire officials as well as assisting the Fire Departments with inquiries. ISO also performs industry related training sessions to Fire Chief Associations, Fire Marshall Associations, Fire Departments and Insurers. The Organization provided the Examiners with a listing of training events, seminars and webinars that were conducted during the period of review. For example, in 2016, ISO-sponsored training was offered at over 171 presentations and conferences nationwide.
- During the Examination, the Examiners learned distribution of PPC evaluations, which are developed for insures who choose to license the Organization's intellectual property, is limited to fire officials and other community leaders, but does not include state insurance commissioners. As such, state insurance officials' ability to assist Fire Departments with inquiries related to risk classification is limited. It is also important to note that the FSRS and PPC related factors are filed with state insurance departments.

**Recommendation:** The PPC review report does provide information regarding all possible points for each item reviewed by the ISO FR, as well as the points resulting from the FR's review. However, ISO does not recommend which items a Fire Department should prioritize to improve how the full amount of points in each of the areas reviewed may be attained. ISO has explained

to the Examiners that they don't believe they are in the position to provide advice and guidance to Fire Departments; however, it is recommended that the Organization revisit their position. We discuss the PPC Survey later in the Report; however, the Examiners noted that 56% of survey responders indicated that an improvement in the ISO PPC evaluation process involves the Organization providing information on how a Fire Department may improve their classification in the future. Consequently, ISO may wish to consider developing a more "user-friendly" format to report results. Also, the Organization may also wish to consider discussing this matter further with state regulators for their input.

**Recommendation:** The PPC review report does provide information regarding all possible points for each item reviewed by the ISO FR, as well as the points resulting from the FR's review. However, ISO does not recommend which items a Fire Department should prioritize to improve how the full amount of points in each of the areas reviewed may be attained. ISO has explained to the Examiners they don't believe they are in the position to provide advice and guidance to Fire Departments; however, it is recommended that the Organization revisit their position.

### Information Technology Review of ISO's PPC

In addition to the work the IT Examiners completed related to the original scope of the Examination, the Examiners also reviewed ISO's technology, which supports the Organization's PPC process.

ISO collects information to assess communities' fire-protection efforts in communities throughout the United States. In each of these communities ISO analyzes the relevant data using its FSRS and assigns a Public Protection Classification from 1 to 10. Class 1 generally represents superior property fire protection and Class 10 indicates that the area's fire-suppression program doesn't meet ISO's minimum criteria. By classifying communities' ability to suppress fires, ISO helps the communities evaluate their public fire-protection services. The program provides an objective, countrywide standard for rating purposes that carries with it an ancillary benefit of helping communities in their planning and budgeting for facilities, equipment and training necessary for effective public fire protection.

The IT Examiners performed certain procedures specifically related to user access of the applications used to manage the Organization's PPC. ISO's PPC program measures the effectiveness of public fire protection for structures in FPAs across the country. PPC considers the overall fire suppression service

capability relative to the risk in the graded area. This following information provides a description of the procedures performed to review the user access for the PPC applications in support of the procedures performed by the Market Conduct and Actuarial Examiners' review of the Standards referenced below. The information was obtained as a result of interviews with ISO personnel, reviews of applicable policies/procedures and examination of supporting evidence.

ISO detailed their PPC process during a meeting at ISO's NPC in May 2017. Based on that meeting, the IT Examiners noted the following relative to the PPC applications (CMCI, CMDB, and CMC Manual Plus):

- The field reps utilize several applications to record/document the Public Protection Classification information. The CMCI consists of five (5) modules:
  - Fire
  - ECC
  - Water
  - Needed Fire Flow (Web-based)
  - FPA
- Four applications (Fire, ECC, Water and FPA) are installed locally on the field rep's laptop and transfer data when connected to the ISO VPN. These modules are used to collect the information from the local Fire Departments (equipment, water, etc.) and populate this information into the CMCI
- All PPC surveys are tracked in the CMCI Processing Queue which is monitored by the NPC on a daily basis.
- The information from the CMCI application is transferred into the CMDB which drives the reporting (publications). A final review of the information is performed within CMDB. Updates made in CMDB are migrated to CMC Manual Plus product which is accessed through ISOnet
- Final reports/publications are generated from CMC Manual Plus.

Based on the information gathered during the referenced meeting, the IT Examiners determined that the PPC data is uploaded to the NPC in an ad-hoc method based on the completion of surveys. In addition, since the NPC staff has access to the survey data in order to edit/update the data based on updates from the fire district, 20-point review issues, etc., the PPC survey data upload is an IT-dependent manual process. It was determined there would be limited value to reviewing the data submission procedures from

an IT perspective, since the data validation is performed manually by the NPC staff rather than through any type of automated process. However, given the potential for multiple personnel with access to the survey data, an analysis of the user access within the PPC applications was determined to be relevant. As ISO's CMC Manual Plus is only a reporting tool, the IT Examiners elected to omit that application from review and focus on the CMCI and CMDB applications.

## **I. Testing Procedures/Observations**

IT Examiners participated in a walkthrough of the PPC applications at the NPC in Mt. Laurel, New Jersey. The Examiners confirmed that the PPC applications are hosted/managed through the Verisk (ISO's parent company) Eastern Data Center. The IT Examiners performed interviews to understand the roles that individuals had within the PPC applications (CMCI and CMDB). The IT Examiners noted that the Community Mitigation Security Application was used to provide access to the PPC applications, and the administrative users for the CMCI applications are members of the CMCI Security group within Active Directory. The IT Examiners identified the members of the CMCI Security group and confirmed two administrative users for the PPC applications.

The IT Examiners requested additional information regarding the job functions of the members of the CMCI Security group and noted that neither user performs an IT role. Therefore, the IS function for the CMCI applications is determined to be independent of the operating units for which it performs data processing functions as both members have day-to-day processing responsibilities based on their job description. In addition, the IS roles and responsibilities are not separate from the PPC operations. Additionally, the IT Examiners noted the following regarding the NPC audits:

- In order to further examine the user access within the PPC applications, the IT Examiners requested evidence showing the access levels for all users. We obtained and tested an Excel listing showing the access levels for the CMCI users and a copy of the query used to extract the listing. The IT Examiners used pivot tables within excel to perform an analysis regarding the user access data noting that the data does not contain user names, only user IDs. ISO personnel confirmed that the IDs are managed on the mainframe through the company standard user administration processes. While no individuals can be specifically identified by the user IDs, we can infer some information about the application of user access. The IT Examiners noted that:

- User access appears to have been applied in the CMCI application given the varying number of users at different access levels (i.e. all user IDs do not have the same access)
- Segregation of duties appears to have been implemented as users with Manager level access do not have access to any other roles
- The number of users with the Customer Service role appears reasonable given the number of employees at the NPC
- The number of users (136) with the Field Representative role appears high given the number of field reps (approximately 75). Even if the NPC employees are added to the number of field representatives, the number is still a bit high. However, the number of users is not excessive, and as such this matter was not determined to be a finding. We recommend that ISO review this matter to validate the number of users is accurate.

## **X. PUBLIC PROTECTION CLASSIFICATION SURVEY**

In order to develop a better understanding of the fire service community's relationship with ISO, an on-line survey was developed in which fire officials were asked to participate in providing feedback regarding their interaction with ISO.

The survey included 27 questions developed by the Lead States, and with input from ISO. The survey was facilitated by an email sent to fire chiefs notifying them of the survey's purpose and use. The email also included a link for the fire chief's access to the confidential on-line survey. ISO provided, where available, email addresses for the Fire Departments to be surveyed. The Organization also provided a listing of risk classification evaluations performed during the Period, please reference the table below, which provides details regarding distribution of the survey.

The number of surveys sent does not equal the number of email addresses provided because some email addresses were determined to be invalid. There are several reasons as to why some emails were invalid, including ISO having outdated addresses for fire chiefs who are no longer in the position. Also, in some instances the fire chief's personal email addresses were used, which may no longer be current. ISO advised the Examiners that their FR's are not required to capture fire chiefs or other community officials email addresses. The survey was impacted by not having all available email addresses. It is also noted that a fire official may have responsibility for more than a single

FPA. As such, while there are in excess of 40,000 FPA's protected by approximately 25,000 Fire Departments throughout the United States, the actual population of surveys performed, based on the number of FPAs serviced by a Fire Department was less than the number of Fire Departments.

The survey resulted in important feedback, much of which was favorable to ISO, and which also provided information for the Organization's consideration in enhancing their PPC process.

The following table identifies the population and distribution of the PPC Surveys to Fire Departments throughout the United States.

## PPC SURVEY DISTRIBUTION BY RISK CLASSIFICATION

RISK CLASSIFICATION	POPULATION	EMAIL ADDRESS PROVIDED by ISO	FINAL NUMBER OF SURVEYS SENT	TOTAL NUMBER OF REJECTED EMAILS	TOTAL NUMBER OF SURVEYS RECEIVED	% OF RESPONSES As Compared TO FINAL NUMBER OF EMAILS PROVIDED
1	202	167	122	45	51	31.0%
2	695	547	426	121	158	28%
3	1,677	1,240	1,001	239	361	29%
4	3,201	2,312	1,984	328	627	27%
5	3,836	2,667	2,284	383	608	22%
6	2,663	1,763	1,547	216	390	22%
7	1,012	635	562	73	112	17%
8	115	61	52	9	11	18%
8B	852	588	495	93	124	21%
9	3,017	1,543	1,343	200	272	17%
10	517	190	159	31	48	25%
**	24	21	20	1	3	14.0%
<b>TOTAL</b>	<b>17,811</b>	<b>11,734</b>	<b>9,995</b>	<b>1,739</b>	<b>2,765</b>	<b>23%</b>

## XI. APPENDIX A - LOSS COST FILING SAMPLES

Sample #	Segment Name	State	Effective Year	Corresponding Loss Cost Filing
1	Auto Dealers	RI	2012	CA-12-RADRU
2	General Liability	OK	2012	GL-12-ORU12
3	General Liability	AK	2012	GL-12-ORU12
4	Business Owners	WI	2013	BP-12-RLC12
5	Business Owners	NJ	2013	BP-12-RRU12
6	Commercial Property	MO	2013	CF-11-RRU11
7	Commercial Property	MT	2012	CF-11-RRU11
8	Insurance Agents	TN	2013	PF-13-RIARU
9	Farm Owners	OH	2015	FR-15-RLC15
10	Farm Owners	WY	not shown	FR-15-RLC15
11	Miscellaneous Professional Liability	WI	2016	PF-16-RMILC
12	Miscellaneous Professional Liability	NJ	not shown	PF-16-RMIRU
13	Personal Auto Class Plan	AR	2013	PP-13-RCP1
14	Personal Auto Class Plan	CO	2016	PP-15-RCP1
15	Motorcycles	VT	2014	MT-13-RMTRU
16	Personal Umbrella	ME	2015	DL-13-RLC13
17	Personal Umbrella	NV	2013	DL-13-RRU13
18	Homeowners by Peril	AL	2016	HO-16-BPLC
19	Homeowners by Peril	MS	2015	HO-15-RBPM

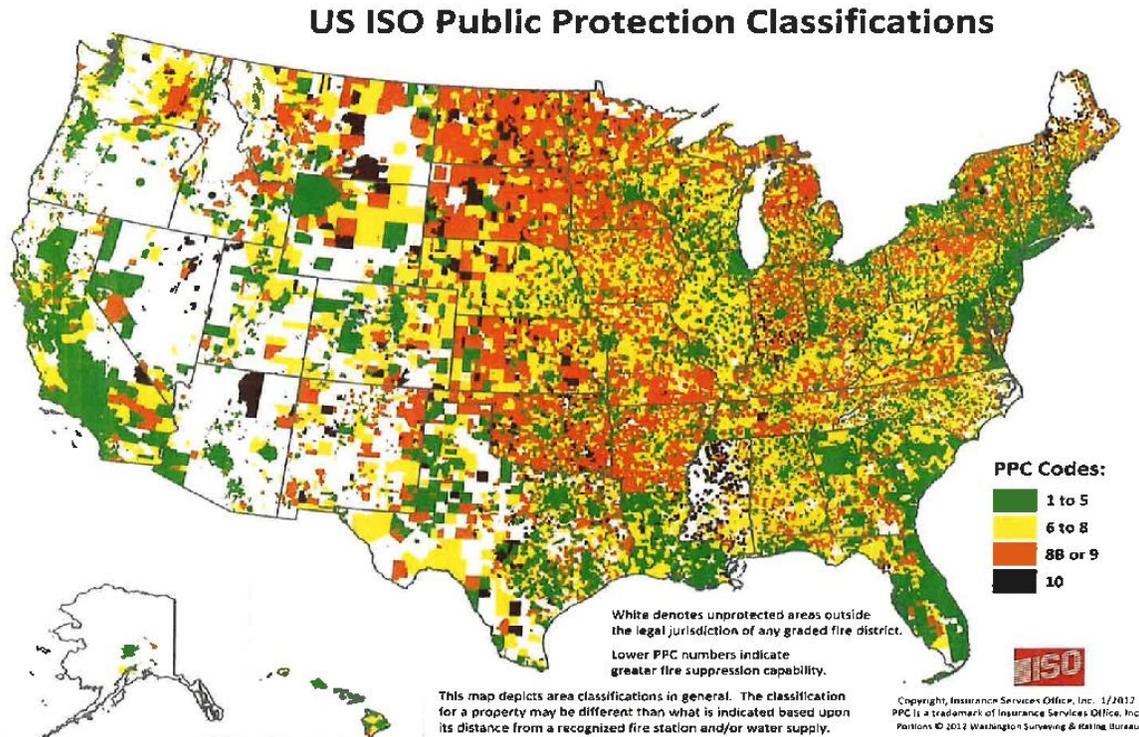
Sample #	Segment Name	State	Effective Year	Corresponding Loss Cost Filing
20	Homeowners - Roof	OR	2015	HO-15-RRU15
21	Homeowners - Roof	IA	2016	HO-15-RRU15
22	Commercial Auto	GA	2016	CA-16-BRLB1
23	Commercial Auto	OK	2016	CA-16-BRLB1
24	Risk Analyzer	MD	2014	PP-14-RAENV
25	Telematics	DE	2013	PP-12-RAGM
26	Commercial Auto	RI	2015	CA-2015-BRLA1
27	Commercial Auto	CA	2015	CA-2015-BRLA1
28	General Liability	OK	2013	GL-2013-BGL1
29	General Liability	TX	2013	GL-2013-BGL1
30	General Liability	AK	2013	GL-2013-BGL1
31	General Liability	FL	2013	GL-2013-BGL1
32	Business Owners	WI	2015	BP-2015-RLA1
33	Business Owners	NY	2015	BP-2015-RLA1
34	Business Owners	NJ	2014	BP-2014-RLA1
35	Business Owners	IL	2014	BP-2014-RLA1
36	Commercial Property	MO	2013	CF-2013-RLA1
37	Commercial Property	PA	2013	CF-2013-RLA1
38	Commercial Property	MT	2013	CF-2013-RLA1
39	Commercial Property	OH	2013	CF-2013-RLA1

CONFIDENTIAL

Sample #	Segment Name	State	Effective Year	Corresponding Loss Cost Filing
40	Farm Owners	OH	2016	FR-2016-RLA1
41	Farm Owners	GA	2016	FR-2016-RLA1
42	Personal Auto Class Plan	AR	2013	PP-2013-BRLA1
43	Personal Auto Class Plan	WA	2013	PP-2013-BRLA1
44	Personal Auto Class Plan	CO	2016	PP-2016-BRLA1
45	Personal Auto Class Plan	MI	2016	PP-2016-BRLA1
46	Personal Liability	NV	2015	DL-2015-RLA1
47	Personal Liability	NJ	2015	DL-2015-RLA1
48	Homeowners - Roof	OR	2016	HO-2016-RLA1
49	Homeowners - Roof	VA	2016	HO-2016-RLA1
50	Homeowners - Roof	IA	2016	HO-2016-RLA1
51	Homeowners - Roof	NE	2016	HO-2016-RLA1

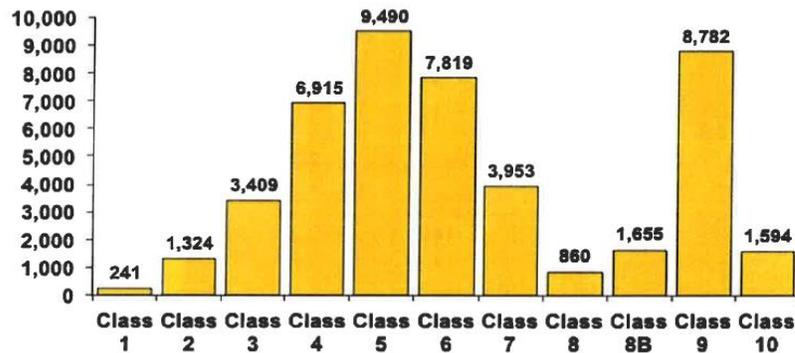
## XII. APPENDIX B – UNITED STATES ISO PUBLIC PROTECTION CLASSIFICATION DISTRIBUTION

Please note that the Organization has advised the following chart may not be current, and we have included for illustrative purposes.



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### Countrywide



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### **XIII. EXAMINATION REPORT SUBMISSION**

The courtesy and cooperation of the officers and employees of the Organization during the examination are acknowledged.

Respectfully submitted,

**Barry L. Wells, CCLA, AMCM**  
**Managing Examiner**



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