

**State:** Pennsylvania **Filing Company:** Allstate Insurance Company  
**TOI/Sub-TOI:** 04.0 Homeowners/04.0001 Condominium Homeowners  
**Product Name:** AIC Condo  
**Project Name/Number:** 9.9% Increase/RITM00878705

## Filing at a Glance

Company: Allstate Insurance Company  
Product Name: AIC Condo  
State: Pennsylvania  
TOI: 04.0 Homeowners  
Sub-TOI: 04.0001 Condominium Homeowners  
Filing Type: Rate  
Date Submitted: 10/18/2016  
SERFF Tr Num: ALSE-130773857  
SERFF Status: Assigned  
State Tr Num:  
State Status: Received Review in Progress  
Co Tr Num: R29860: 9.9% INCREASE  
  
Effective Date: 12/05/2016  
Requested (New):  
Effective Date: 01/19/2017  
Requested (Renewal):  
Author(s): Bonnie Wittman  
Reviewer(s): Eric Zhou (primary), Michael McKenney  
Disposition Date:  
Disposition Status:  
Effective Date (New):  
Effective Date (Renewal):  
  
State Filing Description:

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## General Information

Project Name: 9.9% Increase	Status of Filing in Domicile:
Project Number: RITM00878705	Domicile Status Comments:
Reference Organization:	Reference Number:
Reference Title:	Advisory Org. Circular:
Filing Status Changed: 10/19/2016	
State Status Changed: 10/19/2016	Deemer Date:
Created By: Bonnie Wittman	Submitted By: Bonnie Wittman
Corresponding Filing Tracking Number:	

### Filing Description:

This filing proposes a 9.9% rate increase for the Pennsylvania Condominium line of business in the Allstate Insurance Company based on an overall 11.6% indicated rate level need. This rate will be accomplished by revising the Rate Adjustment Factor.

We are targeting an implementation date of December 05, 2016 for new business written and renewals processed on or after this date, with renewals effective on or after January 19, 2017.

Please note the assumed effective date of the indication is December 01, 2016.

This filing company is closed to new business. Allstate has, however, supplied a new business effective date for special business cases, for example, to accommodate a new business policy in the same company to a policyholder that has been reinstated, or if a cancel/re-write is necessary.

The Allstate Insurance Company Condominium line of business accounts for 1.14% of all Allstate Insurance Line 4 premium. This Condominium filing does not have any impact on any of the other programs within in the Homeowners book of business.

## Company and Contact

### Filing Contact Information

Bonnie Wittman, State Filings Director	bwb4d@allstate.com
2775 Sanders Road	847-402-3144 [Phone] 23144 [Ext]
Suite A2-W	847-402-9757 [FAX]
Northbrook, IL 60062	

### Filing Company Information

Allstate Insurance Company	CoCode: 19232	State of Domicile: Illinois
2775 Sanders Road	Group Code: 8	Company Type: Property and
Suite A2-W	Group Name: Allstate	Casualty
Northbrook, IL 60062	FEIN Number: 36-0719665	State ID Number:
(847) 402-5000 ext. [Phone]		

## Filing Fees

Fee Required?	No
Retaliatory?	No

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Fee Explanation:

## State Specific

\*Filing Fee Amount: n/a

\*Date Filing Fee Mailed: n/a

\*Filing Fee Check Number: n/a

\*Filing Fee Check Date: n/a

\*NAIC Number: 19232

SERFF Tracking #:

ALSE-130773857

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### Rate Information

Rate data applies to filing.

Filing Method:

Prior Approval

Rate Change Type:

Increase

Overall Percentage of Last Rate Revision:

4.900%

Effective Date of Last Rate Revision:

09/14/2015

Filing Method of Last Filing:

Prior Approval

### Company Rate Information

Company Name:	Overall % Indicated Change:	Overall % Rate Impact:	Written Premium Change for this Program:	Number of Policy Holders Affected for this Program:	Written Premium for this Program:	Maximum % Change (where req'd):	Minimum % Change (where req'd):
Allstate Insurance Company	11.600%	9.900%	\$171,513	4,537	\$1,736,595	12.500%	1.800%

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## Rate/Rule Schedule

Item No.	Schedule Item Status	Exhibit Name	Rule # or Page #	Rate Action	Previous State Filing Number	Attachments
1		Manual Pages	Page 1	Replacement	ALSE-130189364	PA Condo AIC Manual R29860 IMP12052016.pdf

The following discounts, credits and surcharges should be applied in the order listed.

1. Multiply the appropriate premium from the rate pages by a Rate Adjustment Factor of 1.534  
(Note: Premiums for policies with Coverage C limits less than \$6,000 may be developed by subtracting \$1 per \$1,000 from the \$6,000 premium and then applying the Rate Adjustment Factor.)
2. Not Rented - Multiply by .95  
Rented 1-8 Weeks - Multiply by 1.00  
Rented 9 or More Weeks - Multiply by 1.25
3. \$50, \$500 or \$1,000 Deductible - Multiply \$100 Deductible premium by 1.111, .778 or .700
4. \$250 Theft Deductible - Multiply \$50 or \$100 Deductible premium by .95
5. Home Buyer Discount – Multiply by the appropriate factor (Rule 23)
6. Personal Property Reimbursement Provision - Multiply by 1.25 (Rule 4.B.)
7. Protective Device Discount - Multiply by the appropriate factor (Rule 16)
8. 55 and Retired Discount - Multiply by .75 (Rule 17)
9. Home and Auto Discount - Multiply by .90 (Rule 18)
10. The Good Hands People ® Discount - Multiply by .95 (Rule 19)
11. For Secondary Residence Credit subtract the amount shown on the Supplementary Rate Pages (Rule 8)
12. Rate Transition – Multiply by the Rate Transition Factor (Rule 24)

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## Supporting Document Schedules

<b>Bypassed - Item:</b>	Authorization to File (PC)
<b>Bypass Reason:</b>	n/a
<b>Attachment(s):</b>	
<b>Item Status:</b>	
<b>Status Date:</b>	

<b>Satisfied - Item:</b>	Actuarial Explanatory Memorandum & Supporting Exhibits (PC)
<b>Comments:</b>	
<b>Attachment(s):</b>	PA Condo AIC Actuarial Support IMP12052016.pdf PA Condo AIC Tracked Changes IMP12052016.pdf
<b>Item Status:</b>	
<b>Status Date:</b>	

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# **ATTACHMENT I**

## **Summary of Disclosures**

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**ACTUARIAL STANDARDS OF PRACTICE**

This document confirms compliance with the Actuarial Standards of Practice that are applicable to the preparation of statewide rate filings performed by casualty actuaries as stated in “Applicability Guidelines for Actuarial Standards of Practice” (American Academy of Actuaries, September 2004).

# **ATTACHMENT II**

## **Summary of Rate Level Indication**

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**SUMMARY OF THE DEVELOPMENT OF STATEWIDE RATE LEVEL INDICATION**

The calculation of the rate level indication is consistent with the Statement of Principles Regarding Property and Casualty Insurance Ratemaking.

A rate level indication is a test of the adequacy of expected revenues versus expected costs during the future policy period. Therefore, to derive the indicated rate level need accurately, Allstate's historical premium and loss experience needs to be adjusted. In accordance with Section 3.1 of Actuarial Standard of Practice No. 13, *Trending Procedures in Property/Casualty Insurance Ratemaking*, Allstate trends the underlying historical experience for premiums, losses, and fixed expenses to appropriately reflect historical and projected changes in these components of the rate level indications. In addition, historical premiums must be adjusted to reflect the current rate level, and historical losses must be adjusted to reflect expected development over time. All hurricane related losses during the experience period were removed and replaced with a provision to reflect those expected losses. Details of these necessary adjustments to the historical data used in the rate level indication are described in this memorandum.

**Attachment V, Exhibit 1.0** summarizes the indicated and proposed rate changes. The determination of the overall indicated change is included in **Exhibit 1.1**, and described in detail throughout this filing.

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**ADJUSTMENTS TO NON-WEATHER LOSSES**

Underlying Data

The data used in the calculation of the rate level indication was selected in accordance with the considerations listed in Section 3.2 of Actuarial Standard of Practice No. 23, *Data Quality*. Please reference **Exhibit 2** for the fiscal accident years used in developing the rate level indications.

Non-weather losses are defined as those whose primary cause of loss was Fire, Theft, Liability, or All Other perils. Allocated loss adjustment expense (ALAE) is included in the losses.

Please note that Non-Weather losses from both Allstate Insurance Company and Allstate Indemnity Company are used in the development of the provision for Non-Weather losses and LAE since the Allstate Insurance Company data does not, in itself, provide a sufficiently credible basis for evaluation.

Accident Year Weights

In order to develop a credible measure of the indicated rate level, it is sometimes necessary to use more than one year of historical loss experience. A maximum of five accident years is combined to determine the indicated provision for loss and loss adjustment expense. The number of years used is based upon a credibility procedure from the paper "On the Credibility of the Pure Premium" (Proceedings of the Casualty Actuarial Society, Vol. LV, 1968), by Mayerson, Jones and Bowers, and actuarial judgment. The analysis was completed using a  $k$  value of 0.100 and a  $P$  value of 90.0%; these parameters reflect the desire that the observed pure premium should be within 100k% of the expected pure premium with probability  $P$ . Assuming a Poisson frequency, an empirical review of the severity size of loss curve provides a gauge of credibility based on the number of claims closed with a payment.

The weights applied to the loss experience for the accident years are determined by the distribution of earned exposures over those years. The weights are based on the exposure distribution rather than the claim distribution in order to lessen the impact of volatility that can occur in the claim distribution. The initial calculated weight for a given year is limited to the weight for the subsequent year and the final weights are calculated proportionate to the limited weights to total 100%.

This approach for incorporating credibility in determination of the accident year weights is consistent with the Current Practices and Alternatives detailed in Section 3 of Actuarial Standard of Practice No. 25, *Credibility Procedures Applicable to Accident and Health, Group Term Life, and Property/Casualty Coverages*.

### Loss Development

Allstate has developed accident year losses (including allocated loss adjustment expense) to ultimate settlement levels using the Link Ratio method. The link ratio method assumes that future development is proportional to losses that have already emerged as of a given evaluation date.

To calculate estimated ultimate losses using the Link Ratio method, historical age-to-age link ratios are calculated, which represent loss development between different evaluation periods. An average of the historical link ratios is then used to estimate the ultimate level of paid losses to be used in ratemaking. This method assumes that historical loss development patterns can be used to estimate future loss development on current immature claims.

Loss development factors were based on Countrywide Allstate Insurance Group data. Loss development patterns for Allstate Insurance Company and Allstate Indemnity Company are expected to be similar since claims settlement practices are the same for each company.

Refer to **Exhibits 3.1-3.2** for the loss development using the Link Ratio method of loss development.

### Loss Adjustment Expenses

Allocated loss adjustment expenses (ALAE) are included in the losses. Losses in the experience period have been adjusted to account for non-hurricane unallocated loss adjustment expenses (ULAE). A provision is developed using Countrywide Allstate Insurance Group data. A three-year average of the ratios of Countrywide, combined-lines, calendar year non-hurricane ULAE to Countrywide, combined-lines, calendar year non-hurricane incurred losses and allocated loss adjustment expense is used to determine the ULAE provision. The average ratio is then applied to the losses for each year used in the formula calculation. The ULAE ratio that has been used in this filing is shown in **Exhibit 5**.

### Loss Trend

The past changes in actual frequency and severity on a twelve-month-moving basis (evaluated at each quarter) were analyzed. The data has been adjusted as described below.

Frequency and severity amounts are calculated using the methodology in “The Effect of Changing Exposure Levels on Calendar Year Loss Trends” (*Casualty Actuarial Society Forum*, Winter 2005) by Chris Styrsky. This methodology helps to more consistently match losses and claims paid with the exposures that produced the claims.

**Exhibit 7** displays the paid pure premium trends. The credibility level of Allstate loss trend data was analyzed based on the number of claims paid in the latest experience year, which is consistent with the criteria for selecting a credibility procedure outlined in Section 3 of Actuarial Standard of Practice No. 25, *Credibility Procedures Applicable to Accident and Health, Group Term Life, and Property/Casualty Coverages*.

After considering past results, credibility level of Allstate data, and actuarial judgment, annual pure premium trends were selected. The selected trends and projections are displayed in **Exhibit 6**. These annual selections are used to project the data from the average occurrence date of the experience period to the average occurrence date of the future policy period.

This approach for selecting pure premium trends and projections is consistent with the Current Practices and Alternatives detailed in *Appendix 1 – Background and Current Practices of Actuarial Standard of Practice No. 13, Trending Procedures in Property/Casualty Insurance Ratemaking*.

#### Credibility for Losses

##### State Credibility:

The available accident year data used in the indication is not fully credible. Therefore, we determine the partial credibility of the provision for Non-Weather loss and LAE using the credibility procedure referenced in the Accident Year Weight section in **Attachment II, Page 2**. State accident year data is given a minimum weight of 50%. The Non-Weather loss and LAE is then weighted with a credibility complement, the development of which is included on **Exhibit 9**.

**ALLSTATE INSURANCE COMPANY  
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**ADJUSTMENTS TO WEATHER LOSSES**

The indicated provision for weather losses is determined based on individual frequency and severity components. Allstate has found that separate analyses of frequency and severity for weather losses provide a better estimate of pure premium given the inherent complication of process variance in these losses. The specific base data and methodology for weather losses is explained in detail below.

Underlying Data

Weather losses are defined as those whose primary cause of loss was Water, Wind, Hail, or Lightning perils. Allocated loss adjustment expense (ALAE) is included in the losses. Please note that although Water claims arise from both weather and non-weather events, data limitations currently prevent separate classifications of claims within this peril. All Water claims have been classified as weather events for purposes of this analysis. Please reference **Exhibit 2** for the fiscal accident years used for the severity analysis.

Please note that Weather losses from both Allstate Insurance Company and Allstate Indemnity Company are used in the development of the provision for Weather losses and LAE since the Allstate Insurance Company data does not, in itself, provide a sufficiently credible basis for evaluation.

Severity Accident Year Weights

A maximum of five accident years is combined to determine the indicated weather severity provision. The number of years used is based upon a credibility procedure from the paper "On the Credibility of the Pure Premium" (Proceedings of the Casualty Actuarial Society, Vol. LV, 1968), by Mayerson, Jones and Bowers, and actuarial judgment. The analysis was completed using a k value of 0.100 and a P value of 90.0%; these parameters reflect the desire that the observed severity should be within 100k% of the expected severity with probability P. Unlike its non-weather counterpart, this analysis does not rely on a frequency assumption; rather, an empirical review of the severity size of loss curve provided a gauge of credibility based on the number of claims closed with a payment.

The weights applied to the loss experience for the accident years are determined by the distribution of earned exposures over those years. The weights are based on the exposure distribution rather than the claim distribution in order to lessen the impact of volatility that can occur in the claim distribution. The initial calculated weight for a given year is limited to the weight for the subsequent year and the final weights are calculated proportionate to the limited weights to total 100%.

This approach for incorporating credibility in determination of the accident year weights is consistent with the Current Practices and Alternatives detailed in Section 3 of Actuarial Standard

of Practice No. 25, *Credibility Procedures Applicable to Accident and Health, Group Term Life, and Property/Casualty Coverages*.

### Severity Development

Allstate determines ultimate accident year weather severity using the Link Ratio method, which assumes that future development is proportional to losses that have already emerged as of a given evaluation date.

Loss development factors were based on Countrywide Allstate Insurance Group data. Loss development patterns for Allstate Insurance Company and Allstate Indemnity Company are expected to be similar, since claims settlement practices are the same for each company.

To calculate estimated ultimate severities using the Link Ratio method, historical age-to-age link ratios are calculated, which represent loss development between different evaluation periods. An average of the historical link ratios is then used to estimate the ultimate level of paid losses to be used in ratemaking. This method assumes that historical loss development patterns can be used to estimate future loss development on current immature claims.

Refer to **Exhibit 4.2** for the weather severity loss development using the Link Ratio method. The estimated ultimate severity is shown in **Exhibit 2**.

### Severity Trend

The past changes in actual severity on a twelve-month-moving basis (evaluated at each quarter) were analyzed.

**Exhibit 7** displays the paid severity trends. The credibility level of Allstate loss trend data was analyzed based on the number of claims paid in the latest experience year, which is consistent with the criteria for selecting a credibility procedure outlined in Section 3 of Actuarial Standard of Practice No. 25, *Credibility Procedures Applicable to Accident and Health, Group Term Life, and Property/Casualty Coverages*.

After considering past results, credibility level of Allstate data, and actuarial judgment, annual severity trends were selected. The selected trends and projections are displayed in **Exhibit 6**. These annual selections are used to project the data from the average occurrence date of the experience period to the average occurrence date of the future policy period.

This approach for selecting severity trends and projections is consistent with the Current Practices and Alternatives detailed in *Appendix 1 – Background and Current Practices of Actuarial Standard of Practice No. 13, Trending Procedures in Property/Casualty Insurance Ratemaking*.

### Frequency Estimation

**Exhibit 8** displays the number of years of data used to calculate the average frequency for Pennsylvania for the combined Water, Wind, Hail, and Lightning perils (i.e., weather). Each accident year's claim frequencies are developed to ultimate. The straight average is used as the

state estimate of future claims frequency. Note that no trend is applied to this frequency estimate.

To calculate estimated ultimate frequencies using the Link Ratio method, historical age-to-age link ratios are calculated, which represent claim development between different evaluation periods. An average of the historical link ratios is then used to estimate the ultimate level of frequencies to be used in ratemaking. This method assumes that historical claim development patterns can be used to estimate future claim development on current immature claims.

Refer to **Exhibit 4.1** for the weather frequency claim development using the Link Ratio method. The estimated ultimate frequency is shown in **Exhibit 2**.

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**MODELED LOSSES**

Allstate separately identifies and accounts for its exposure to loss due to the occurrence of hurricane or other modeled events within a state. All hurricane related losses during the experience period were removed and then replaced with a provision to reflect expected modeled losses in Pennsylvania.

**Attachment III** describes the modeled provision in detail. **Attachment V, Exhibit 10** displays the total modeled provision used in Pennsylvania.

Please note that in developing the Provision for Hurricane Loss and LAE, the Amount of Insurance Years (AIY's) are used as an exposure base. One AIY is equal to \$1,000 of Coverage in force for one year. The AIY's must be adjusted to represent the AIY's that we expect to be in force during the policy period. **Exhibit 18** shows the average AIY trend for Pennsylvania. The selected projection is displayed in **Exhibit 17**. This annual selection is used to project the AIY's to the average earned date of the proposed policy period.

This approach for selecting AIY projections is consistent with the Current Practices and Alternatives detailed in *Appendix 1 – Background and Current Practices of Actuarial Standard of Practice No. 13, Trending Procedures in Property/Casualty Insurance Ratemaking*.

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**EXPENSES AND PROFIT PROVISION**

The expense provisions described below were derived in accordance with Section 3.2, Determining Expense Provisions, of Actuarial Standard of Practice No. 29, *Expense Provisions in Property/Casualty Insurance Ratemaking*.

**Exhibit 11** shows the expense provisions used in developing the current fixed and variable expense ratios, as well as the underwriting profit and debt provisions.

**Fixed Expenses**

Provisions

*General and Other Acquisition Expenses*

The provisions for general expense and other acquisition expense are based on Countrywide data. To develop the provision for general and other acquisition expenses, a three-year average of Countrywide, combined-lines, calendar year incurred expense divided by Countrywide calendar year direct earned premium was calculated. Because premiums charged for the net cost of reinsurance (NCOR) do not include provisions for general and other acquisition expenses, the earned premium used in the development of the general and other acquisition expenses is Countrywide direct earned premium less Countrywide NCOR premium. The provision for other acquisition expense has been reduced by the amount of installment fees collected. In addition, the provision has been adjusted for premiums written off.

The expense provisions for general and other acquisition expenses are developed on **Exhibits 12** and **13**.

*Licenses & Fees*

A provision for licenses and fees that do not vary by premium size is determined by taking the arithmetic average ratio of these licenses and fees from the latest three calendar years in Pennsylvania. The provision for licenses and fees is considered, along with the general and other acquisition expense provisions, to be a fixed expense and is shown in **Exhibit 11**.

Rate Need Calculations

In developing the dollar provision for general and other acquisition expenses used in the calculation of the rate level need, the three-year average expense ratio is applied to the average earned group premium of Pennsylvania. The group average earned premium is developed using the same three-year period used in the calculation of the Countrywide expense ratio. The provision is then adjusted for the trend expected to occur from the midpoint of the three years used in the calculation of the average earned premium to the average earned date of the proposed policy period to derive the provision included in the rate level indications.

### Trend (Inflation)

The fixed expense trend utilized in the calculation of the indicated fixed expense provision consists of two components – a trend for General & Other Acquisition expenses and a trend for Licenses & Fees.

The method used to calculate the fixed expense trend for General & Other Acquisition expenses is similar to the method used by the Insurance Services Office (I.S.O.) and other competitors to determine a fixed expense trend. The method utilizes the CPI (Consumer Price Index) and the ECI (Employment Cost Index – Insurance Carriers, Agents, Brokers, & Service) and is discussed by Geoffrey Todd Werner, FCAS, MAAA in his paper *Incorporation of Fixed Expenses*, which was published in the *CAS Forum* (Winter 2004). Based on a review of the historical indices, an annual percentage change is selected for each index. These selected annual percent changes are then weighted together using the distribution of the Allstate expenditures in the latest calendar year for the two broad expense categories that these indices represent. This method is expected to produce stable and reasonable estimates of the true trend in fixed expenses and is consistent with the Current Practices and Alternatives detailed in *Appendix I – Background and Current Practices* of Actuarial Standard of Practice No. 13, *Trending Procedures in Property/Casualty Insurance Ratemaking*.

In addition to the General & Other Acquisition expenses, Licenses & Fees are also considered as fixed expenses. Licenses & fees are generally constant in the absence of state action; therefore, the fixed expense trend should only be applied to the General & Other Acquisition portions of the fixed expenses. To accomplish this, Allstate calculates a weighted average of two trends: the fixed expense trend for general and other acquisition (as calculated using the method described in the paragraph above) and a 0.0% trend for licenses and fees. This weighted-average trend can then be applied to the entire fixed expense provision. The factor to adjust for subsequent change in Fixed Expense is shown in **Exhibit 14**.

### **Variable Expenses**

#### Commission and Brokerage Expense

The proposed commission and brokerage expense provision is determined by taking the arithmetic average ratio of commission and brokerage from the latest three calendar years in Pennsylvania. The provision is shown in **Exhibit 11**.

#### Taxes

The provision for taxes is determined by taking the currently prescribed Pennsylvania premium tax ratio and adding to that the arithmetic average ratio of other assessments that vary by the size of the premium from the latest three or five calendar years. The provision is shown in **Exhibit 11**.

#### Underwriting Profit Provision

Allstate performs two separate cost of capital analyses in the estimation of its cost of equity. The first uses the Fama-French Three-factor Model (FF3F), which reflects developments in the field of financial economics as published in the *Casualty Actuarial Society Forum*, Winter, 2004 and

*in Journal of Risk and Insurance, Vol. 72, No. 3, September 2005* (“Estimating the Cost of Equity Capital For Property-Liability Insurers” by J. David Cummins and Richard D. Phillips). The second is a Discounted Cash Flow (DCF) analysis, which estimates the expected future cash flows to investors in order to gauge the proper cost of equity. Once both the DCF and FF3F estimates had been calculated, Allstate selected a cost of equity of 10.0%, which reflected the outcomes of both analyses.

An analysis of premium, loss and expense cash flows is used to calculate the investment income on policyholder supplied funds (PHSF). This methodology is one of the two examples given in Actuarial Standard of Practice, No. 30, *Treatment of Profit and Contingency Provisions and the Cost of Capital in Property/Casualty Insurance Ratemaking*, as appropriate methods for recognizing investment income from insurance operations (page 4).

The calculations detailing this investment income analysis are found in **Exhibit 15**. The expected investment yield rate (applied as a force of interest) used to discount losses and expenses includes anticipated net investment income and anticipated capital gains, both realized and unrealized. Operating cash flows are discounted to the average time of earnings of premium and profit for the policy year, rather than to the start of the policy year.

The final pre-tax underwriting profit provision at present value is shown in **Exhibit 11** as well.

The underwriting profit provision will not apply to the retained risk provision or the high-layer retained hurricane related losses.

#### Debt Provision

The cost of debt is listed as a separate provision in the Variable Expense and Profit Ratio. The debt provision amount is shown in **Exhibit 11**.

#### Contingency Provision

The contingency provision of 2.0% is shown in **Exhibit 11**. Please note that the contingency provision does not apply to the retained risk provision.

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**RETAINED RISK PROVISION**

Allstate includes a retained risk provision in determining the rate level need in Pennsylvania. This provision is meant to provide appropriate returns on the high-layer retained hurricane exposure. **Attachment IV** describes the development of the retained risk provision per Amount of Insurance Year (AIY). **Exhibit 10** displays the retained risk provision per AIY used in Pennsylvania. Please note that in developing the Provision for Modeled Loss and LAE and Retained Risk, the Amount of Insurance Years (AIY's) are used as an exposure base. One AIY is equal to \$1,000 of Coverage in force for one year. The AIY's must be adjusted to represent the AIY's that we expect to be in force during the policy period. **Exhibit 18** shows the average AIY trend. The selected projection is displayed in **Exhibit 17**. This annual selection is used to project the AIY's to the average earned date of the proposed policy period. This approach for selecting AIY projections is consistent with the Current Practices and Alternatives detailed in *Appendix 1 – Background and Current Practices* of Actuarial Standard of Practice No. 13, *Trending Procedures in Property/Casualty Insurance Ratemaking*. Due to the retained risk provision representing an appropriate return for this high-layer retained hurricane exposure, the underwriting profit provision for the corresponding loss and LAE is not applied.

The methodology used to develop this retained risk provision is based upon the approach detailed in the presentation “Quantifying Risk Load for Property Catastrophe Exposure” by David Appel from the 2010 Casualty Actuarial Society Ratemaking and Product Management Seminar (<http://www.casact.org/education/rpm/2010/handouts/RR3-Appel.pdf>).

**ALLSTATE INSURANCE COMPANY  
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**ADJUSTMENTS TO PREMIUMS**

Current Rate Level

All premiums in the experience period were adjusted to current rate level. Allstate applies the “Miller-Davis-Karlinski” method to adjust premiums since it more accurately calculates factors to current rate level in instances when exposures are changing throughout the year, whether through growth, shrinkage or seasonality. When exposures are, in fact, written uniformly throughout the year, this method produces approximately the same answers as the parallelogram method.

The Miller-Davis-Karlinski method is also used to bring premiums to current rate level prior to calculating the changes in average premium used in the premium trends.

Premium Trend

In addition to bringing premiums to current rate level, changes in the average written premium at the current premium level were reviewed. Unlike losses, premium is relatively stable. Only the latest year of premium is used in the calculation of the indication, which eliminates the need for premium trend. Premium projections are still selected to account for shifts in the distribution of various underlying factors. Given that the effects on losses caused by these shifts are reflected in the loss projections, it is important that Allstate also account for the anticipated future changes in premiums.

The projected average earned premium as well as the calculation of the premium projection factor is displayed in **Exhibits 16** and **17**, respectively. This annual projection is used to project the data from the average earned date of the most recent experience period to the average earned date of the future policy period. Premium trend data is provided in **Exhibit 18**.

This approach for selecting a premium projection is consistent with the Current Practices and Alternatives detailed in *Appendix 1 – Background and Current Practices* of Actuarial Standard of Practice No. 13, *Trending Procedures in Property/Casualty Insurance Ratemaking*.

# **ATTACHMENT III**

## **Modeled Loss Provision**

**ALLSTATE INSURANCE GROUP  
CONDOMINIUM  
PENNSYLVANIA**

**DEVELOPMENT OF THE HURRICANE PROVISION  
BASED ON THE 2015 AIR WORLDWIDE TOUCHSTONE VERSION 3.0 ATLANTIC  
HURRICANE MODEL  
IN THE STATEWIDE RATE LEVEL INDICATION**

I. INTRODUCTION

**The Casualty Actuarial Society Statement of Principles Regarding Property and Casualty Ratemaking defines a rate as “...an estimate of the expected value of future costs” and further states that “a rate provides for all costs associated with the transfer of risk”. Rates are therefore an estimate of the costs for the policies to which the rates will apply. In our property ratemaking we assume that the proposed rates will apply to the policies written for one year from the effective date of the rates. Each provision of the rate is based on an estimate of the costs associated with those policies.**

Losses expected from a hurricane are significantly different than losses expected from other types of loss events. Hurricanes are unique because of the large potential impact such storms can have on the company's solvency and because of the relatively low frequency of such events.

The significant variation in the frequency of different magnitudes of hurricanes diminishes the accuracy of historical hurricane loss experience for projecting expected loss levels for the policies to which proposed rates will apply. Average expected recurrence periods for the larger, more severe storms are so long that many external variables will change in the time periods between occurrences. For example, the area of southern Florida hit by Hurricane Andrew in 1992 was last hit by a major hurricane, Hurricane Betsy, in 1965. The type, number, value, vulnerability and geographical distribution of exposed properties in the area impacted by Hurricane Andrew are very different than those of the exposed properties in 1965. Actual loss statistics from a hurricane that occurred many years ago are not easily adjusted for the type, number, value, and vulnerability of present day structures.

Since historical hurricane losses cannot be used to accurately estimate current hurricane loss potential, Allstate has contracted with an outside vendor, AIR Worldwide (AIR), which uses an alternative methodology based on Monte Carlo simulation to arrive at Allstate's expected annual hurricane losses. This approach involves the development of computer programs that describe in detail the frequency of hurricanes, their meteorological characteristics, and their effects on exposed properties. A high-speed computer then simulates a large set of hypothetical hurricanes and estimates the resulting property losses based on Allstate's exposure.

In order to estimate the potential loss from hurricanes, 100,000 scenario years of potential hurricanes are simulated. This large number of simulations attempts to ensure that the resulting probability distribution of losses converges to a stable representative distribution of potential annual hurricane loss.

The pattern of simulated hurricanes is representative of what has occurred historically because meteorological data on the actual events since 1900 were used to estimate the parameters of the AIR hurricane simulation model. The meteorological sources used to develop the model are the most complete and accurate databases available from various agencies of the National Weather Service and the National Oceanic and Atmospheric Administration (NOAA), including the National Hurricane Center.

This explanatory memorandum incorporates text taken directly from documents supplied to Allstate by AIR and should not be copied or distributed without the express, written permission of AIR.

## II. HURRICANE PARAMETERS AND WIND SPEED ESTIMATION

### HURRICANE PARAMETERS

The key parameters of hurricanes used to simulate each storm and resulting wind speeds are:

1. Hurricane Frequency
2. Landfall Location
3. Central Pressure
4. Radius of Maximum Winds
5. Forward Speed
6. Track Angle at Landfall
7. Storm Track
8. Peak Weighting Factor (PWF)
9. Gradient Wind Reduction Factor (GWRF)

The probability distributions for several of these variables (2-6) are estimated for coastal segments of equal length from Texas to Maine. Random samples are generated from the probability distributions of these input variables to assign values to the variables for each simulated hurricane.

#### 1. Hurricane Frequency

More than one hundred years of history, spanning the period 1900-2012, were used to estimate the parameters of the annual frequency distribution.

#### 2. Landfall Location

There are 62 segments of fifty nautical miles in the AIR hurricane simulation model, totaling 3,100 nautical miles of coastline. Of these, segment 29 in Southern Florida is split into two parts, one of which represents Key West in Florida. Historical landfalls are tabulated by the 62 segments and the frequencies are then smoothed to produce an estimate of the landfall probability for each segment. A cumulative probability distribution of landfall locations is developed for the entire coastline. Once a landfall

segment has been selected from this distribution, the exact landfall location is selected from a uniform distribution within the segment.

### 3. Central Pressure

Central pressure is the lowest sea-level pressure at the center of the hurricane. This variable is the primary determinant of hurricane wind speed. All else being equal, wind speeds increase as the central pressure decreases, or more precisely, as the difference between the central pressure and the peripheral pressure increases. Distributions are first fitted to historical central pressure data for each fifty nautical mile coastal segment. Separate distributions are then estimated for larger regions defined based on broad meteorological differences. The final distribution used for each segment is a mixture, with appropriate weights applied, of the regional distributions and the segment distribution.

### 4. Radius of Maximum Winds

Radius of Maximum Winds ( $R_{\max}$ ) is the distance from the storm's center (eye) to the point where the strongest winds are found. The  $R_{\max}$  of stochastic events is estimated using a procedure that relates the  $R_{\max}$  to the central pressure of the storm and to latitude. The  $R_{\max}$  is allowed to vary after landfall over the life of the storm.

### 5. Forward Speed

Forward Speed is the speed at which a hurricane moves from point to point. The parameters of the distribution of forward speed at landfall are estimated for each coastal segment. The lower bound of the distribution of forward speed is three nautical miles per hour. The upper bound is dependent on latitude. Forward speed is allowed to vary after landfall based on historical distributions.

### 6. Track Angle at Landfall

Track Angle at Landfall is the angle between track direction and due north at landfall location. Separate distributions for track angle at landfall are estimated for segments of coastline that have variable orientation.

### 7. Storm Track

A times series model is employed to reflect dependent variables in the historical data to produce simulated storm tracks. The track direction of each simulated hurricane has the capability to curve and re-curve on a fully probabilistic basis using conditional probability matrices. Thus, the AIR hurricane simulation model has the ability to propagate a storm track that accurately imitates actual storm motion.

## 8. Peak Weighting Factor (PWF)

The PWF is a stochastic parameter used to reflect the vertical slant of the hurricane eye. The PWF and GWRF are generated jointly using a bounded Bivariate Normal distribution.

## 9. Gradient Wind Reduction Factor (GWRF)

The model uses a gradient wind reduction factor to translate calculated maximum wind speeds at upper altitudes of the event to surface wind speeds, defined as 10 meters above the ground. This factor is calculated using the distance from the eye and the PWF.

## HURRICANE WIND SPEED ESTIMATION

Once the key parameters have been generated, the meteorological relationships among them are used to develop a complete time profile of wind speeds for each location affected by the storm. This involves the following calculations for each simulated hurricane:

1. Gradient-Level Wind Speed
2. Adjustment to surface (10-meter) level
3. Storm Asymmetry
4. Storm Decay (Filling)
5. Radial Decay (Storm Center-Relative Wind Speed)
6. Adjustment of Wind Speed for Surface Friction and Averaging Time

### 1. Gradient-Level Wind Speed

A maximum upper-level (or gradient-level) wind speed is determined based on central and peripheral pressures, as well as radius of maximum winds and latitude coordinates. The upper level wind is then determined above the location of interest by adjusting the maximum value based on the distance of location from the eye of the storm. This is done using an expected radial gradient wind profile derived from the scientific literature. This wind, called the gradient-level wind speed, is estimated over a 10-minute averaging time.

### 2. Adjustment to surface (10-meter) level

The gradient-level wind is then reduced to a 10-meter height level through application of a scaling factor and a spatial relationship adjustment. The gradient-wind adjustment factor (GWRF) that is used is a variable factor that represents the observed relationship between gradient-level winds and those measured at a 10-m height. The spatial adjustment accounts for differences in the GWRF relationship between the core and the periphery of the storm. The resulting wind represents the surface-level (10-meter) wind speed over an open water surface.

### 3. Storm Asymmetry

Because hurricanes rotate counterclockwise in the Northern Hemisphere, the combined effects of forward motion and rotational effects on wind direction produce higher wind speeds on the right side of the storm than the left, as viewed facing the storm's forward direction. This phenomenon is captured in the model using the interaction of forward and rotational speeds.

### 4. Storm Decay (Filling)

Once over land, the hurricane moves away from its source of energy, i.e., warm ocean water. Central pressure rises and as a result, the eye "fills" and winds degrade. Filling equations used in the AIR model estimate the reduction in over-land wind speed as a function of time since landfall, rather than distance. A fast moving storm can produce damaging winds further inland than a slow moving storm with the same landfall intensity (wind speed). Some storms can also reintensify after landfall, in accordance with historical data, but central pressure cannot be lower than the central pressure at landfall. The filling equations vary by coastal region and smoothing is performed to ensure that there are no unrealistic jumps between regions.

### 5. Radial Decay (Storm Center-Relative Wind Speed)

The estimated wind speed at any point within the model domain is dependent on the radius of maximum winds ( $R_{max}$ ), the distance between the eye of the storm and location in question, the translational factor between upper-level winds and surface-level wind speeds, and the vertical slant in the eye of a hurricane. As a particular location lies farther from the eyewall, the winds decay until they reach an ambient level at the periphery of the storm.

### 6. Adjustment of Wind Speeds for Surface Friction and Averaging Time

Differences in surface terrain also affect wind speeds. The roughness of the underlying surface induces friction which tends to slow down the winds, and induces turbulence effects which tend to generate short-lived gusts. The friction and gust effects are estimated based on the roughness of the surface over which the wind passes and from which direction the winds are coming.

A friction factor is calculated to capture surface roughness at each affected site and the associated decrease in wind speed that results from surface obstacles. Estimates of surface roughness are derived from digital US Geological Survey (USGS) land use/land cover data. Each terrain type has a different "roughness value" that will lead to different frictional effects on wind speeds at different locations. In general, the rougher the terrain is the larger the effect of friction on wind speeds will be.

As soon as a storm crosses the coastline, there is an immediate reduction in wind speed. The reduction factors reach equilibrium values when the terrain is homogeneous over sufficiently large areas such that the surface winds come in balance with the surface. Thus, most local variability occurs when the underlying surface is diverse.

A gust factor is calculated to capture the effects of surface turbulence and is also associated with the roughness of the terrain. Smooth surfaces impart only a small turbulent effect. The adjustment for rougher surfaces is more substantial since rough surfaces tend to generate short-lived gusts which will translate to a stronger maximum 1-minute sustained wind speed. The gust factor is computed using the same USGS land use data set as is used for the friction calculation. The final adjusted wind represents a 1-minute sustained wind at a 10-meter height that accounts for the impacts of the local environment and the forward motion of the storm.

### III. DAMAGE ESTIMATION AND DEMAND SURGE

AIR engineers have developed damage functions that describe the interaction between buildings, (including both structural and nonstructural components) and their contents, and the local wind speeds to which they are exposed. These functions estimate a mean damage level as well as the variability of damage to wind speed at each location. Because different structural types will experience different degrees of damage, the damage functions vary according to construction class, occupancy, height, etc. The model estimates a complete distribution around the mean level of damage for each local wind speed and each structural type. Losses are calculated by applying the appropriate damage function to the replacement value of the insured property.

The AIR damage functions capture the effects of wind duration as well as the effect of peak wind speed. The longer a property experiences severe wind speeds, the greater the damage. The hurricane damageability relationships incorporate well-documented engineering studies published by wind engineers and other experts outside of AIR. They also incorporate the results of post-hurricane field surveys performed by AIR engineers. These relationships are continually refined and validated based on actual client companies' loss data.

Any major hurricane event causes an increase in demand for materials and services to repair and rebuild damaged property. This can put pressure on costs, resulting in higher than expected costs. Therefore, AIR applies aggregate Demand Surge functions to loss estimates to take into account the combined effects of events clustered in both time and geography.

### IV. LOSS CALCULATION

#### ALLSTATE EXPOSURE DETAIL

Allstate has supplied AIR with detailed policy-level exposure detail. The exposures represent policies in-force as of December 31, 2014, and contain policy-level location information, property characteristics, deductible information, and coverage information.

## MODELED LOSS ESTIMATES

Losses estimated from 100,000 years of simulated potential hurricanes are summed and divided by 100,000 to produce the expected annual losses from all hurricanes for each property. Property loss estimates are then aggregated to produce expected annual loss by ZIP Code, county, and state.

Hurricane factors are then calculated as the total loss estimate for a given ZIP Code, county, or state divided by the amount of insurance years. This factor is applied to the expected average amount of insurance years in the determination of the overall rate level indication.

## IMPACT ON MODELED LOSSES DUE TO WARM SEA SURFACE TEMPERATURES

Meteorological research has identified correlations between naturally varying ocean temperatures and hurricane activity originating in the Atlantic that affects both the Gulf and the Atlantic coastlines. The active 2004 and 2005 hurricane seasons heightened Allstate's awareness of such relationships. Scientists have concluded that the climate is presently undergoing a cycle of warmer than average sea surface temperatures which is expected to result in increased hurricane activity in the United States. It is well known that the ocean is able to retain heat for very long periods of time, a physical characteristic known as persistence.

The AIR WSST hurricane catalog (using 100,000 years of simulations) is a catalog developed to account for the impact of warm sea surface temperatures in the Atlantic Ocean on hurricane landfall activity. The WSST catalog is based on AIR's standard hurricane catalog with adjustments made to landfall frequencies by region to reflect the expected impact of warmer-than-average sea surface temperatures. All of the model components aside from the catalog are that of the AIR Atlantic Tropical Cyclone Model, Version 3.0.

In hurricane rate filings prior to 2013, the modeled losses were adjusted with a WSST Adjustment Factor in order to account for the impact of warm sea surface temperatures on temperatures in the Atlantic Ocean on hurricane landfall activity. This WSST Adjustment Factor was created because only 50,000 years of simulations were previously available. With the current model, 100,000 years of simulations of WSST modeled losses are available and can be directly utilized without the application of a WSST Adjustment Factor.

## ADJUSTMENTS TO MODELED LOSS ESTIMATES

As advances in science and changes in claim payment behaviors evolve, Allstate re-evaluates how it currently reflects modeled hurricane losses in ratemaking. At times it is necessary to adjust the modeled losses to more accurately estimate the Property and Casualty industry's risk from hurricanes. Note that all adjustments made to the modeled losses are under continual development and may change in the future as Allstate learns more about the changing risk environment. Modeled loss estimates include adjustments for:

- Loss Adjustment Expenses

## Loss Adjustment Expenses

Loss Adjustment Expense (LAE), both allocated and unallocated, represents the cost of adjusting, investigating, and settling losses due to the hurricane peril. Allocated expenses are incurred while investigating and settling claims and are considered allocated because they can be linked directly to a claim file. Unallocated expenses are associated with processing claims, but cannot be linked directly to a claim file. Modeled hurricane losses provided by AIR do not include LAE. Therefore, it is necessary to develop LAE provisions to be applied to these losses for use in pricing and hurricane exposure management. In order to account for the LAE associated with hurricane losses, we have applied a factor of 1.195 to the modeled losses for all property lines. The selection of this provision was based on a study of the LAE associated with hurricane losses for Allstate for ratemaking purposes.

### Methodology:

Loss, allocated loss adjustment expense, and unallocated loss adjustment expense data for hurricane events from 2005 through 2013 were analyzed. These years were selected as the prevailing claims settlement practices better reflect the current practices. Additional adjustments to historical unallocated expenses were made where needed to best represent the expected claims staffing model and costs. Tropical storms are not included in the LAE analysis, as they are not simulated in the modeled loss data. A ratio of loss adjustment expenses to losses was developed.

Allstate Insurance Group Allstate Personal and Commercial Lines Combined Loss Adjustment Expense Analysis - Hurricane Peril	
ALAE	2.1%
ULAE	<u>17.4%</u>
Total	19.5%
 Selected:	 19.5%

## IV. ACTUARIAL STANDARDS OF PRACTICE

The rules and procedures as set forth in ASOP38-Using Models Outside the Actuary's Area of Expertise (Property and Casualty) were applied in reviewing the modeled losses.

# **ATTACHMENT IV**

## **Retained Risk Provision**

**ALLSTATE INSURANCE GROUP  
CONDOMINIUM  
PENNSYLVANIA**

**DEVELOPMENT OF RETAINED RISK PROVISION BASED ON MODELED  
EXPOSURE**

Allstate includes a provision in the rates to cover the risk of exposing its capital to large catastrophic events. This retained risk provision (RRP) is intended to provide appropriate compensation to Allstate relative to its retained, high-layer modeled risk. The provision described below is consistent with the rules and procedures set forth in the Actuarial Standard of Practice No. 38, *Using Models Outside the Actuary's Area of Expertise (Property and Casualty)* and Actuarial Standard of Practice No. 39, *Treatment of Catastrophe Losses in Property/Casualty Insurance Ratemaking*.

The procedure for developing the RRP calls for identifying the portion of catastrophic losses that will be retained by Allstate and then estimating the cost to Allstate of holding the capital required to pay such losses. To measure the amount of retained losses, Allstate's actual reinsurance contracts are applied to the modeled losses based on the AIR Touchstone Version 2.0 Hurricane and Earthquake Model for Pennsylvania. This provides an estimate of the portion of the losses that will be covered by Allstate's reinsurance contracts and the amounts that will be retained by Allstate. Once the retained losses in excess of a 1-in-5 event (i.e., 20% occurrence probability) have been determined, we then calculate the appropriate compensation for exposure to such losses by using data from capital markets – specifically the market for catastrophe bonds. The details of the procedures used to determine the magnitude of retained losses at various occurrence probabilities, and the investor-required compensation for bearing the risk of those losses, are explained in more detail below.

Catastrophe bonds are one of a class of financial instruments known collectively as “insurance linked securities (ILS).” ILS have payoffs conditional on future contingent events, such as the occurrence of hurricanes. While there are a variety of ILS traded in today's capital markets, the most common and prominent of these are catastrophe bonds, which are bonds that may default on both principal and interest if a specific catastrophic event occurs.

Typically a catastrophe bond is issued by an insurance company with a provision that if a specified catastrophic event (e.g., hurricane in Florida, earthquake in California, winter storm in Europe, etc.) of a particular magnitude occurs, the issuer may default on the payment of principal and/or interest on the bond. In that respect, the bond functions similarly to reinsurance – once the “attachment point” is breached, the insurer receives a benefit that at maximum is equal to the face amount of the bond. When catastrophe bonds are sold, investors naturally demand a yield premium as compensation for the risk of default.

Mechanically, when catastrophe bonds are sold, the issuer deposits the proceeds of the sale into a segregated account which pays interest at the risk free rate. However, because of the default risk, the yields on such bonds must be higher than the risk free rate. Thus, the interest in excess of the risk free rate is an excellent basis for measuring the risk premium that the marketplace has established for bearing catastrophe exposure. Furthermore, since insurers face the same risk of catastrophic loss as investors, the risk premiums paid in capital markets provide an appropriate measure of the compensation required for the insurer as well.

There are several reasons why this is a particularly useful way to quantify a RRP in ratemaking. First, the data are drawn directly from capital markets, meaning they reflect the consensus of all investors as to the compensation required for bearing catastrophe risk. Second, they reflect exactly the types of risks to which insurers are exposed when they write property coverage in catastrophe prone states; as such they represent an appropriate estimate of the return demanded for the catastrophe exposure. Third, the entire analysis is free of assumptions regarding insurer-specific factors such as cost of capital, leverage, and investment income. Finally, the data required to adapt this information to insurance ratemaking is readily available and reported regularly at annual (or more frequent) intervals.

The data used in the calculation of the rate retained risk provision was selected in accordance with the considerations listed in Section 3.2 of Actuarial Standard of Practice No. 23, *Data Quality*. As regards the data, the sources Allstate relies upon are the annual publications of Lane Financial LLC, the most prominent analyst of the ILS market in the US. Annually, Lane Financial provides a summary of all newly issued catastrophe bonds, which includes information on the following critical variables:

- Face amount of bond
- Insured peril
- Yield spread to risk free rate (the excess return or risk premium on the bond)
- Probability of first loss (the probability that the insured event will cause any loss of principal or interest)
- Probability of exhaustion (the probability that the loss will be large enough to exhaust the entire principal of the bond)
- Expected value of loss (the annual average loss given the probability of attachment and exhaustion, expressed as a percent of the face amount of the bond)

Allstate uses this data to develop the appropriate RRP by state, line, and company in the following manner. First, profit multiples are calculated, which are obtained by subtracting the expected value of loss from the excess return on the bond, and then dividing that quantity by the expected loss. This profit multiple is essentially a measure of the profit an investor expects per dollar of expected loss on the bond. However, as might be expected, the amount of profit that investors require per dollar of loss depends on the riskiness of the losses themselves. For bonds that are extremely risky (i.e., that have very low probabilities of attachment) the profit multiples are considerably higher than for less risky instruments. Therefore, when the data are compiled, the profit multiples are computed for each bond, and a regression curve is fit to the profit multiple data. The average profit multiples for each layer are then determined using the fitted curve, for the following layers: those with attachment probabilities of 20% - 10%, 10% - 5%, 5% - 2%, 2% - 1%, 1% - 0.4%, and less than 0.4%. As expected, these profit multiples increase as the attachment probabilities decrease.

The next step is to apply these profit multiples to the amount of modeled losses retained by Allstate. To do this, the amount of retained modeled losses are compiled by layer, where the layers are defined by occurrence probabilities in the same ranges as the profit multiples described above. Given the expected retained losses within each layer and the required profit per dollar of loss as measured by the profit multiples, the RRP (in dollars) is calculated by multiplying the expected retained losses within each layer by the corresponding profit multiple and summing across the layers. This result can be used to estimate the appropriate compensation to Allstate for its retained modeled exposure. These calculations are performed using annual aggregate modeled losses since Allstate's surplus is exposed to multiple events in the same year.

The AIR model produces 100,000 years of modeled losses, some of which contain multiple events. Since catastrophe bond risk is related to the likelihood of the occurrence of an event that is large enough to pierce a predetermined layer in a given year, the largest modeled event in each year is considered for the purposes of determining the probability of loss. Thus, the years are ranked from high to low based on the largest loss in each year. The loss sizes are determined for each of the occurrence probabilities that are used to define the loss layers (0.4%, 1%, 2%, 5%, 10%, and 20%). For example, the 1-in-100-year loss (1% probability) is the amount of the largest loss in the 1000th largest year (1% of 100,000), the 1-in-250-year loss (0.4% probability) is the amount of the largest loss in the 400th largest year, etc. Once the loss sizes are determined for the boundaries of each layer, all expected losses from the AIR model are distributed into these layers of loss.

Next, the amount of losses in each layer that are covered by Allstate's reinsurance contracts is determined by applying Allstate's reinsurance contracts to the modeled losses. The following items need to be considered when applying Allstate's reinsurance contracts:

- For events that impact more than one state, the reinsured losses are allocated to each affected state proportional to those events' expected losses in each state.
- Allstate's nationwide (excluding New Jersey and Florida) reinsurance program is a per-occurrence excess-of-loss contract that covers catastrophe losses in a year, subject to the terms and limits of that contract.
- The reinsurance coverage provided by the nationwide program is applied to each state proportional to each state's expected losses in the reinsured layer.
- Some states have multiple reinsurance contracts that provide coverage for various types of catastrophe losses – these may include state-specific reinsurance contracts in addition to the nationwide contract.
- Additional considerations are required when there are multiple events in a year to ensure that the reinsured losses are allocated properly to each state.

Allstate's retained losses for each event are derived by subtracting the losses covered by reinsurance from the total expected losses. In some years, the retained losses exceed the total amount of Allstate's statutory surplus. Those years with retained losses in excess of Allstate's surplus are identified and Pennsylvania's portion of the excess losses is determined proportional to the retained losses in that year. The losses in excess of Allstate's statutory surplus are subtracted from the retained losses to determine the exposed losses covered by Allstate's surplus.

The indicated RRP is then developed by applying the profit multiple indicated by capital markets to the exposed Pennsylvania losses covered by surplus in each layer. The dollars of RRP are summed across the layers, and a diversification factor is applied to account for the fact that Allstate is a multi-line, multi-state company, to determine the total RRP.

Finally, the dollars of calculated RRP are divided by Amount of Insurance Years (AIYs) to develop a per-AIY charge that is included in the rate level indication.

# **ATTACHMENT V**

## **Rate Level Indication Exhibits**

**ALLSTATE INSURANCE COMPANY  
CONDOMINIUM  
PENNSYLVANIA**

**SUMMARY OF RATE LEVEL CHANGES**

	Premium Dist. at Current Rates	Indicated Change	Selected Change*
Variable Package Premium	80.9%	N/A	12.2%
<b>Total Condominium Package</b>	80.9%	N/A	12.2%
Additional Coverages	16.6%	N/A	N/C
<b>Total less Reinsurance</b>	97.5%	<b>11.9%</b>	<b>10.2%</b>
Net Cost of Reinsurance	2.5%	N/A	N/C
<b>Total Condominium</b>	<b>100.0%</b>	<b>11.6%</b>	<b>9.9%</b>
*Implicitly assumes no indicated change for additional coverages, fixed expense premium and Net cost of reinsurance.			

**ALLSTATE INSURANCE COMPANY  
CONDOMINIUM  
PENNSYLVANIA**

**DETERMINATION OF STATEWIDE RATE LEVEL INDICATION**

1) Indicated Provision for Loss and Loss Adjustment Expense	\$281.17
[ (a) + (b) + (c) + (d) ]	
a) Non-Weather Loss and LAE	\$91.35
b) Weather Loss and LAE	\$185.58
c) Low-Layer Retained and Ceded Hurricane Loss and LAE	\$2.77
d) High-Layer Retained Hurricane Loss and LAE	\$1.47
2) Current Fixed Expense Ratio	11.2%
3) Three Year Average Earned Premium	\$309.90
4) Current Dollar Provision for Fixed Expense	\$34.71
[ (2) x (3) ]	
5) Factor to Adjust for Subsequent Change in Fixed Expense	1.087
6) Indicated Provision for Fixed Expense [ (4) x (5) ]	\$37.73
7) Variable Expense, Contingencies Ratio, and Profit Ratio	24.1%
[ (a) + (b) + (c) ]	
a) Variable Expense Ratio (including Commissions, Taxes, and Debt Provision)	15.0%
b) Contingencies Ratio	2.0%
c) Profit Ratio	7.1%
8) Indicated Retained Risk Provision	\$3.55
9) Indicated Average Premium	\$424.17
[ (a) + (b) + (c) ]	
a) Non-Weather Loss and LAE	\$418.22
Weather Loss and LAE	
Low-Layer Retained and Ceded Hurricane Loss and LAE	
Fixed Expense	
[ (1a) + (1b) + (1c) + (6) ] / [ 1 -(7 Total) ]	
b) High-Layer Retained Hurricane Loss and LAE	\$1.77
(1d) / [ 1 - (7a) - (7b) ]	
c) Retained Risk Provision	\$4.18
(8) / [ 1 - (7a) ]	
10) Projected Average Earned Premium at Current Rates	\$379.11
11) Indicated Rate Level Change	11.9%
[ (9 Total) / (10) - 1.0 ]	

**ALLSTATE INSURANCE COMPANY  
CONDOMINIUM  
PENNSYLVANIA**

**DEVELOPMENT OF PROVISION FOR LOSS AND LAE**

Non-Weather Peril excluding Earthquake  
Data: Pennsylvania Allstate Insurance Group

Fiscal Accident Year* Ending	9/30/2011	9/30/2012	9/30/2013	9/30/2014	9/30/2015
1) Earned Exposures	14,952	15,100	14,998	14,884	14,726
2) Accident Year* Non-Weather Ultimate Loss	\$936,978	\$532,873	\$991,898	\$1,381,856	\$1,017,874
3) Non-Weather Ultimate Loss and LAE	\$1,068,155	\$607,475	\$1,130,764	\$1,575,316	\$1,160,376
4) Factor to Adjust Losses for Pure Premium Trend	1.385	1.319	1.256	1.196	1.139
5) Projected Non-Weather Ultimate Loss and LAE [ (3) x (4) ]	\$1,479,395	\$801,260	\$1,420,240	\$1,884,078	\$1,321,668
6) Projected Average Non-Weather Loss and LAE [ (5) / (1) ]	\$98.94	\$53.06	\$94.70	\$126.58	\$89.75
7) Non-Weather Experience Year Weights	20%	20%	20%	20%	20%
8) Indicated Provision for Non-Weather Loss and LAE $\Sigma [ (6) \times (7) ]$					\$92.61
9) State Non-Weather Credibility					50%
10) Non-Weather Complement of Credibility					\$90.09
11) Credibility-Weighted Indicated Provision for Non-Weather Loss and LAE [ (8) x (9) + [ 1 - (9) ] x (10) ]					\$91.35

**Weather Peril**

Data: Pennsylvania Allstate Insurance Group

Fiscal Accident Year* Ending	9/30/2011	9/30/2012	9/30/2013	9/30/2014	9/30/2015
12) Accident Year* Weather Ultimate Severity	\$4,037.11	\$3,893.19	\$4,127.10	\$4,520.62	\$4,486.50
13) Weather Ultimate Severity incl. LAE	\$4,602.31	\$4,438.24	\$4,704.89	\$5,153.51	\$5,114.61
14) Weather Severity Trend Factor	1.385	1.319	1.256	1.196	1.139
15) Projected Weather Ultimate Severity incl. LAE [ (13) x (14) ]	\$6,374.20	\$5,854.04	\$5,909.34	\$6,163.60	\$5,825.54
16) Weather Experience Year Weights	20%	20%	20%	20%	20%
17) Indicated Provision for Severity Including All LAE $\Sigma [ (15) \times (16) ]$					\$6,025.34
18) Indicated Provision for Frequency					3.08%
19) Indicated Provision for Weather Loss and LAE [ (17) x (18) ]					\$185.58

\* Evaluated at 15 months

ALLSTATE INSURANCE COMPANY  
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CALCULATION OF LOSS DEVELOPMENT FACTORS

Liability Peril  
Data: Countrywide Allstate Insurance Group

Fiscal Accident Year Ending 09/30	Incurred Losses †									
	15 Months	27 Months	39 Months	51 Months	63 Months	75 Months	87 Months	99 Months	111 Months	123 Months‡
2001										8,003,556
2002									9,775,059	9,651,148
2003								9,756,824	9,664,208	9,683,588
2004							9,666,119	9,720,246	9,836,152	9,870,864
2005						10,541,795	10,507,355	10,793,418	10,926,799	10,940,055
2006					12,050,438	12,280,681	12,432,400	12,441,057	12,629,027	12,651,447
2007				12,389,393	13,078,627	13,122,556	12,918,755	12,986,463	13,007,620	
2008			11,333,999	11,823,957	11,760,632	11,812,058	11,949,829	12,002,883		
2009		11,922,251	13,316,654	14,101,565	14,345,735	14,726,539	14,756,021			
2010	9,071,943	11,511,220	12,678,311	13,476,934	13,609,654	14,128,098				
2011	11,338,083	15,030,456	18,156,436	18,693,929	18,985,344					
2012	11,086,937	14,383,962	15,269,446	16,075,573						
2013	11,418,964	12,810,974	14,366,774							
2014	13,419,386	17,551,951								
2015	14,431,628									

Development	Link Ratios									
	15 to 27	27 to 39	39 to 51	51 to 63	63 to 75	75 to 87	87 to 99	99 to 111	111 to 123	
4th Prior	1.269	1.117	1.043	1.056	1.019	0.997	1.006	0.991	0.987	
3rd Prior	1.326	1.101	1.059	0.995	1.003	1.012	1.027	1.012	1.002	
2nd Prior	1.297	1.208	1.063	1.017	1.004	0.984	1.001	1.012	1.004	
1st Prior	1.122	1.062	1.030	1.010	1.027	1.012	1.005	1.015	1.001	
Latest	1.308	1.121	1.053	1.016	1.038	1.002	1.004	1.002	1.002	
5 Year Average:	1.264	1.122	1.050	1.019	1.018	1.001	1.009	1.006	0.999	
Selected:	1.264	1.122	1.050	1.019	1.018	1.001	1.009	1.006	0.999	

Loss Development Period (months):	15 - Ult	27 - Ult	39 - Ult	51 - Ult	63 - Ult	75 - Ult	87 - Ult	99 - Ult	111 - Ult
Loss Development Factor:	1.568	1.240	1.106	1.053	1.033	1.015	1.014	1.005	0.999

†Includes ALAE

‡Includes supplemental reserves in addition to case reserves

CALCULATION OF ULTIMATE LOSS

Liability Peril  
Data: Pennsylvania Allstate Insurance Group

Year	(1) Incurred Loss	(2) Factor to Ultimate	(3) Ultimate Loss & ALAE
2011	\$524,722	1.033	\$542,038
2012	\$220,196	1.053	\$231,866
2013	\$300,284	1.106	\$332,114
2014	\$206,491	1.240	\$256,049
2015	\$137,298	1.568	\$215,283

**ALLSTATE INSURANCE COMPANY  
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**CALCULATION OF LOSS DEVELOPMENT FACTORS**

Non-Weather Excluding Liability  
Data: Countrywide Allstate Insurance Group

<b>Incurred Losses †</b>							
Fiscal Accident Year Ending 09/30	<u>15 Months</u>	<u>27 Months</u>	<u>39 Months</u>	<u>51 Months</u>	<u>63 Months</u>	<u>75 Months</u>	<u>87 Months‡</u>
2004							19,073,650
2005						19,946,946	19,934,444
2006					24,446,776	25,448,227	25,452,510
2007				24,952,501	24,805,243	24,813,843	24,765,445
2008			23,381,617	23,492,454	23,345,963	23,354,698	23,388,866
2009		24,743,074	24,697,456	24,684,614	24,659,807	24,699,032	24,694,939
2010	22,949,981	24,314,791	24,452,397	24,455,714	24,445,841		
2011	23,166,103	23,822,129	24,002,103	23,727,402	23,768,927		
2012	27,684,924	28,660,825	28,523,175	28,592,795			
2013	21,740,925	22,537,478	22,602,758				
2014	24,978,600	25,958,887					
2015	26,494,249						
<b>Link Ratios</b>							
Development	<u>15 to 27</u>	<u>27 to 39</u>	<u>39 to 51</u>	<u>51 to 63</u>	<u>63 to 75</u>	<u>75 to 87</u>	
4th Prior	1.059	0.998	1.005	0.994	1.000	0.999	
3rd Prior	1.028	1.006	0.999	0.994	1.000	1.000	
2nd Prior	1.035	1.008	1.000	0.999	1.000	0.998	
1st Prior	1.037	0.995	0.989	1.000	1.002	1.001	
Latest	1.039	1.003	1.002	1.002	1.002	1.000	
5 Year Average:	1.040	1.002	0.999	0.998	1.001	1.000	
Selected:	1.040	1.002	0.999	0.998	1.001	1.000	
<b>Loss Development Period (months):</b>	<u>15 - Ult</u>	<u>27 - Ult</u>	<u>39 - Ult</u>	<u>51 - Ult</u>	<u>63 - Ult</u>		
<b>Loss Development Factor:</b>	1.040	1.000	0.998	0.999	1.001		

†Includes ALAE

‡Includes supplemental reserves in addition to case reserves

**CALCULATION OF ULTIMATE LOSS**

Non-Weather Excluding Liability  
Data: Pennsylvania Allstate Insurance Group

Year	(1) Incurred Loss	(2) Factor to Ultimate	(3) Ultimate Loss & ALAE
2011	\$394,545	1.001	\$394,940
2012	\$301,308	0.999	\$301,007
2013	\$661,106	0.998	\$659,784
2014	\$1,125,807	1.000	\$1,125,807
2015	\$771,722	1.040	\$802,591

**ALLSTATE INSURANCE COMPANY  
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**CALCULATION OF FREQUENCY DEVELOPMENT FACTORS**

Weather Peril

Data: Countrywide Allstate Insurance Group

**Paid Frequency**

Fiscal Accident Year Ending 09/30	<u>15 Months</u>	<u>27 Months</u>	<u>39 Months</u>	<u>51 Months</u>	<u>63 Months</u>	<u>75 Months</u>	<u>87 Months</u>
2004							1.63%
2005						2.36%	2.36%
2006					4.08%	4.08%	4.08%
2007				1.85%	1.85%	1.85%	1.85%
2008			1.51%	1.51%	1.52%	1.52%	1.52%
2009		1.62%	1.63%	1.63%	1.63%	1.63%	1.63%
2010	1.70%	1.73%	1.74%	1.74%	1.74%	1.74%	1.74%
2011	1.87%	1.91%	1.92%	1.92%	1.92%		
2012	1.53%	1.56%	1.57%	1.57%			
2013	1.49%	1.53%	1.53%				
2014	1.84%	1.88%					
2015	1.76%						

**Link Ratios**

Development	<u>15 to 27</u>	<u>27 to 39</u>	<u>39 to 51</u>	<u>51 to 63</u>	<u>63 to 75</u>	<u>75 to 87</u>
4th Prior	1.018	1.006	1.000	1.000	1.000	1.000
3rd Prior	1.021	1.006	1.000	1.007	1.000	1.000
2nd Prior	1.020	1.005	1.000	1.000	1.000	1.000
1st Prior	1.027	1.006	1.000	1.000	1.000	1.000
Latest	1.022	1.000	1.000	1.000	1.000	1.000
5 Year Average:	1.022	1.005	1.000	1.001	1.000	1.000
Selected:	1.022	1.005	1.000	1.001	1.000	1.000

<b>Loss Development Period (months):</b>	<u>15 - Ult</u>	<u>27 - Ult</u>	<u>39 - Ult</u>	<u>51 - Ult</u>	<u>63 - Ult</u>
<b>Frequency Development Factor:</b>	1.028	1.006	1.001	1.001	1.000

**CALCULATION OF ULTIMATE FREQUENCY**

Weather Peril

Data: Pennsylvania Allstate Insurance Group

Year	(1) Paid Frequency	(2) Factor to Ultimate	(3) Ultimate Frequency
2011	2.80%	1.000	2.80%
2012	2.24%	1.001	2.24%
2013	2.18%	1.001	2.18%
2014	3.27%	1.006	3.29%
2015	2.95%	1.028	3.03%

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**CALCULATION OF SEVERITY DEVELOPMENT FACTORS**

Weather Peril

Data: Countrywide Allstate Insurance Group

**Paid Severity**

Fiscal Accident Year Ending 09/30	15 Months	27 Months	39 Months	51 Months	63 Months	75 Months	87 Months
2004							4,122.00
2005						2,945.00	2,944.00
2006					1,873.00	1,874.00	1,874.00
2007				4,027.00	4,045.00	4,048.00	4,047.00
2008			4,610.00	4,613.00	4,619.00	4,624.00	4,625.00
2009		4,988.00	4,999.00	4,977.00	4,978.00	4,977.00	4,977.00
2010	4,846.00	4,951.00	4,960.00	4,959.00	4,954.00	4,953.00	
2011	5,058.00	5,198.00	5,218.00	5,218.00	5,211.00		
2012	5,382.00	5,542.00	5,547.00	5,611.00			
2013	5,442.00	5,560.00	5,586.00				
2014	6,155.00	6,313.00					
2015	6,378.00						

**Link Ratios**

Development	15 to 27	27 to 39	39 to 51	51 to 63	63 to 75	75 to 87
4th Prior	1.022	1.002	1.001	1.004	1.001	1.000
3rd Prior	1.028	1.002	0.996	1.001	1.001	1.000
2nd Prior	1.030	1.004	1.000	1.000	1.001	1.000
1st Prior	1.022	1.001	1.000	0.999	1.000	1.000
Latest	1.026	1.005	1.012	0.999	1.000	1.000
5 Year Average:	1.026	1.003	1.002	1.001	1.001	1.000
Selected:	1.026	1.003	1.002	1.001	1.001	1.000

<b>Development Period (months):</b>	<u>15 - Ult</u>	<u>27 - Ult</u>	<u>39 - Ult</u>	<u>51 - Ult</u>	<u>63 - Ult</u>
<b>Severity Development Factor:</b>	1.033	1.007	1.004	1.002	1.001

**CALCULATION OF ULTIMATE SEVERITY**

Weather Peril

Data: Pennsylvania Allstate Insurance Group

Year	(1) Paid Severity	(2) Factor to Ultimate	(3) Ultimate Severity
2011	\$4,033.08	1.001	\$4,037.11
2012	\$3,885.42	1.002	\$3,893.19
2013	\$4,110.66	1.004	\$4,127.10
2014	\$4,489.20	1.007	\$4,520.62
2015	\$4,343.18	1.033	\$4,486.50

**ALLSTATE INSURANCE COMPANY  
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**EXPENSE EXPERIENCE - UNALLOCATED (ADJUSTING AND OTHER EXPENSE) FACTORS**

Data: Countrywide Allstate Insurance Group\*

	<u>2012 - 2014</u>
1) Direct Losses and Allocated Loss Adjustment Expense Incurred excluding Earthquake and Hurricane Losses	\$ 41,149,256
2) Direct Unallocated Loss Adjustment Expense Incurred excluding Earthquake and Hurricane	\$ 5,531,304
3) Ratio (2)/(1)	0.134
4) Pension Provision**	0.006
5) Proposed Provision	0.140

\* Allstate Insurance Company, Allstate Indemnity Company, Allstate Property and Casualty Insurance Company, Allstate County Mutual Insurance Company, Allstate Fire & Casualty, Northbrook Indemnity, and Allstate Texas Lloyds. Data includes Personal Property Lines and Private Passenger Automobile Insurance

\*\*10 Year Average Pension Expense reduced to account for pension plan changes

(000 Omitted)

**ALLSTATE INSURANCE COMPANY  
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**CALCULATION OF LOSS TREND FACTORS**

<u>Peril</u>	Selected Annual Impacts*	
	<u>Historical</u>	<u>Projected</u>
Non-Weather Peril excluding Earthquake Data: Pennsylvania Allstate Insurance Group	5.00%	5.00%
Weather Peril Data: Pennsylvania Allstate Insurance Group	5.00%	5.00%

	<u>4th Prior Year</u>	<u>3rd Prior Year</u>	<u>2nd Prior Year</u>	<u>1st Prior Year</u>	<u>Current Year</u>
1) Loss Trend Projection Date	12/1/2017	12/1/2017	12/1/2017	12/1/2017	12/1/2017
2) Mid-Point of Current Year's Experience Period	3/31/2015	3/31/2015	3/31/2015	3/31/2015	3/31/2015
3) Experience Period Ended	9/30/2011	9/30/2012	9/30/2013	9/30/2014	9/30/2015
4) Midpoint of Experience Period	3/31/2011	3/31/2012	3/31/2013	3/31/2014	3/31/2015
5) Historical: Number of Years from (4) to (2)	4.000	3.000	2.000	1.000	0.000
6) Projected: Number of Years from (2) to (1)	2.671	2.671	2.671	2.671	2.671

Calculation of Trend Factors

- (a) Historical Factors are the Annual Historical Impacts plus unity compounded for the number of years in (5)
- (b) Projected Factors are the Annual Projected Impacts plus unity compounded for the number of years in (6)
- (c) Factor to Adjust Losses for Pure Premium Trend = (a) x (b)

\*Loss trend data on Exhibit 7

**ALLSTATE INSURANCE COMPANY  
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**LOSS TREND DATA**

Non-Weather Peril excluding Earthquake  
Data: Pennsylvania Allstate Insurance Group

Year Ending	Actual Paid Pure		Exponential Curve of Best Fit		
	Premium	Annual Change	24 pt.	12 pt.	6 pt.
03/10	\$37.77	-33.2%	\$37.39		
06/10	35.99	-35.0%	38.54		
09/10	45.32	-14.0%	39.73		
12/10	40.24	-12.7%	40.96		
03/11	42.89	13.6%	42.23		
06/11	49.36	37.2%	43.53		
09/11	49.34	8.9%	44.87		
12/11	50.89	26.5%	46.26		
03/12	52.95	23.5%	47.69		
06/12	42.26	-14.4%	49.16		
09/12	29.06	-41.1%	50.68		
12/12	29.18	-42.7%	52.25		
03/13	56.71	7.1%	53.86	\$65.98	
06/13	62.79	48.6%	55.53	66.35	
09/13	62.72	115.8%	57.24	66.73	
12/13	67.61	131.7%	59.01	67.10	
03/14	65.88	16.2%	60.84	67.48	
06/14	80.94	28.9%	62.72	67.86	
09/14	91.48	45.9%	64.65	68.25	\$86.76
12/14	94.20	39.3%	66.65	68.64	79.84
03/15	63.84	-3.1%	68.71	69.02	73.47
06/15	56.20	-30.6%	70.83	69.41	67.62
09/15	54.36	-40.6%	73.02	69.81	62.23
12/15	72.96	-22.6%	75.28	70.20	57.27
Regression			24 pt.	12 pt.	6 pt.
Avg Annual Percent Change Based on Best Fit:			12.94 %	2.28 %	-28.27 %

**Weather Peril**  
Data: Pennsylvania Allstate Insurance Group

Year Ending	Actual Paid Severity		Exponential Curve of Best Fit		
	Annual Change	Annual Change	24 pt.	12 pt.	6 pt.
03/10	\$3,340	7.1%	\$3,164		
06/10	3,200	-1.4%	3,217		
09/10	3,015	-12.9%	3,271		
12/10	3,074	-9.3%	3,325		
03/11	3,092	-7.4%	3,381		
06/11	3,179	-0.7%	3,437		
09/11	3,380	12.1%	3,494		
12/11	3,597	17.0%	3,553		
03/12	3,883	25.6%	3,612		
06/12	4,172	31.2%	3,672		
09/12	4,362	29.1%	3,733		
12/12	4,031	12.1%	3,796		
03/13	4,128	6.3%	3,859	\$3,918	
06/13	3,996	-4.2%	3,923	3,965	
09/13	3,873	-11.2%	3,989	4,013	
12/13	3,924	-2.7%	4,055	4,062	
03/14	3,965	-4.0%	4,123	4,111	
06/14	4,196	5.0%	4,191	4,160	
09/14	4,297	11.0%	4,261	4,211	\$4,268
12/14	4,337	10.5%	4,332	4,262	4,307
03/15	4,316	8.9%	4,405	4,313	4,347
06/15	4,379	4.4%	4,478	4,365	4,386
09/15	4,266	-0.7%	4,553	4,418	4,426
12/15	4,612	6.3%	4,629	4,471	4,467
Regression			24 pt.	12 pt.	6 pt.
Avg Annual Percent Change Based on Best Fit:			6.84 %	4.92 %	3.71 %

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**PROVISION FOR WEATHER FREQUENCY**

Weather Peril

Data: Pennsylvania Allstate Insurance Group

(1) Accident Year* Ending 09/30	(2) Earned Exposures	(3) Accident Year* Paid Claims	(4) Accident Year* Paid Frequency	(5) Accident Year* Ultimate Paid Frequency
1991	5,073	180	3.55%	3.55%
1992	5,408	151	2.79%	2.79%
1993	5,676	241	4.25%	4.25%
1994	6,006	359	5.98%	5.98%
1995	6,525	176	2.70%	2.70%
1996	6,992	355	5.08%	5.08%
1997	7,585	214	2.82%	2.82%
1998	8,013	238	2.97%	2.97%
1999	8,499	271	3.19%	3.19%
2000	8,917	337	3.78%	3.78%
2001	9,470	306	3.23%	3.23%
2002	9,951	269	2.70%	2.70%
2003	10,436	329	3.15%	3.15%
2004	11,301	329	2.91%	2.91%
2005	12,201	304	2.49%	2.49%
2006	13,117	288	2.20%	2.20%
2007	14,091	322	2.29%	2.29%
2008	14,582	296	2.03%	2.03%
2009	14,502	365	2.52%	2.52%
2010	14,759	432	2.93%	2.93%
2011	14,952	419	2.80%	2.80%
2012	15,100	338	2.24%	2.24%
2013	14,998	327	2.18%	2.18%
2014	14,884	486	3.27%	3.29%
2015	14,726	434	2.95%	3.03%
<b>(6) Pennsylvania Weather Frequency Provision</b>				<b>3.08%</b>
Straight Average of Column (5)				

\* Evaluated at 15 months

**ALLSTATE INSURANCE COMPANY  
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**COMPLEMENT OF CREDIBILITY FOR LOSSES**

Data: Pennsylvania Allstate Insurance Company

	<u>All Perils Excluding Earthquake</u>	
1) Current Permissible Loss and Fixed Expense Ratio	75.9%	
2) Current Average Premium @ CRL	\$364.17	
3) Current Average Fixed Expense	\$34.71	
4) Current Expected Hurricane Pure Premium	\$4.18	
	<u>Non-Weather Peril Excluding Earthquake</u>	<u>Total Weather Peril*</u>
5) Provision for Loss and LAE	\$92.61	\$185.58
6) Loss Trend Project Selection	5.0%	5.0%
7) Loss Trend Factor	1.139	1.139
8) Expected Pure Premium (5) / (7)	\$81.31	\$162.93
9) Expected Proportion of Pure Premium [ (8) / (8 Total) ]	33.3%	66.7%
10) Complement of Credibility [ [ (1) x (2) - (3) - (4) ] x (7) x (9) ]	\$90.09	\$180.44

\*The Weather complement of credibility is not utilized in this indication

**ALLSTATE INSURANCE COMPANY  
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**DEVELOPMENT OF PROVISION FOR MODELED LOSS AND RETAINED RISK**

Data: Pennsylvania Allstate Insurance Company

1) Hurricane Provision Per AIY Including All LAE	0.068
2) Retained Risk Provision Per AIY	0.057
3) Earned Exposures	5,332
4) Earned AIY	327,938
5) Average Earned AIY [ (4)/(3) ]	61.50
6) Factor to Adjust to Projected Average AIY Level	1.013
7) Average AIY Projected to 12/1/2017 [ (5) x (6) ]	62.30
8) Proportion of High-Layer Retained Modeled Losses to Total Modeled Losses	0.347
9) Expected Modeled Catastrophe Pure Premium [ (1) x (7) ]	\$4.24
a) Low-Layer Retained and Ceded Hurricane Pure Premium [ 1 - (8) ] x (9 Total)	\$2.77
b) High-Layer Retained Hurricane Pure Premium [ (8) x (9 Total) ]	\$1.47
10) Expected Retained Risk Provision [ (2) x (7) ]	\$3.55

\*1 AIY = One Amount of Insurance Years = \$1000 of Coverage in Force for One Year

**ALLSTATE INSURANCE COMPANY  
CONDOMINIUM  
PENNSYLVANIA**

**SUMMARY OF EXPENSE PROVISIONS**

Data: Pennsylvania Allstate Insurance Group

	Percent Fixed	Expense Provision
Commissions	0 %	11.6%
Taxes †	0	2.0%
Licenses and Fees	100	0.1%
Profit Provision	0	7.1%

Data: Countrywide Allstate Insurance Group

	Percent Fixed	Expense Provision
Other Acquisition	100 %	5.3%
General Expense	100	5.8%
Debt Provision	0	1.4%
Contingency Provision	0	2.0%

† State Taxes - Does not include Federal Income Tax

**ALLSTATE INSURANCE COMPANY  
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**EXPERIENCE FOR GENERAL EXPENSES**

Data: Countrywide Allstate Insurance Group\*

	General Expense		
	2012	2013	2014
1. Direct Premium Earned Less Reinsurance Premium**	\$21,815,813	\$22,129,879	\$22,975,426
2. General Expense Incurred	\$1,168,587	\$1,266,793	\$1,244,875
3. Ratio (2)/(1)	0.0536	0.0572	0.0542
4. Three Year Average			0.0550
5. Pension Expense Provision***			0.0030
6. Proposed Provision			0.058

\* Allstate Insurance Company, Allstate Property and Casualty Insurance Company, Allstate Indemnity Company, Northbrook Indemnity Company, Allstate Fire & Casualty Insurance Company and Allstate County Mutual. Data includes Personal Property Lines (excluding Earthquake) and Private Passenger Automobile Insurance

\*\* Premiums for Net Cost of Reinsurance (NCOR) do not include provisions for General Expenses. Therefore, direct premiums must be reduced by NCOR premiums to get the premium base upon which the general expense provision is applied.

\*\*\*10 Year Average Pension Expense reduced to account for pension plan changes

(000's) omitted

**ALLSTATE INSURANCE COMPANY  
CONDOMINIUM  
PENNSYLVANIA**

**EXPERIENCE FOR OTHER ACQUISITION EXPENSES**

Data: Countrywide Allstate Insurance Group\*

	Other Acquisition Expense		
	2012	2013	2014
1. Direct Premium Earned Less Reinsurance Premium**	\$21,815,813	\$22,129,879	\$22,975,426
2. Other Acquisition Expense Incurred	\$1,326,479	\$1,319,920	\$1,394,037
3. Ratio (2)/(1)	0.0608	0.0596	0.0607
4. Three Year Average			0.0604
5. Adjusted Three Year Average***			0.0532
6. Proposed Provision			0.053

\* Allstate Insurance Company, Allstate Property and Casualty Insurance Company, Allstate Indemnity Company, Northbrook Indemnity Company, premiums must be reduced by NCOR premiums to get the premium base upon which general and other acquisition expense provisions are applied.

\*\* Premiums for Net Cost of Reinsurance (NCOR) do not include provisions for General and Other Acquisition expenses. Therefore, direct premiums must be reduced by NCOR premiums to get the premium base upon which general and other acquisition expense provisions are applied.

\*\*\* Reduced by 0.87% to reflect the amount of Installment Fees collected for Allstate Insurance Group Personal Property Lines and includes a 0.16% provision for Allstate Insurance Group Personal Property Lines premiums written off.

(000's) omitted

**ALLSTATE INSURANCE COMPANY  
CONDOMINIUM  
PENNSYLVANIA**

**FACTOR TO ADJUST FOR SUBSEQUENT CHANGE IN FIXED EXPENSE**

Data: Countrywide Allstate Insurance Group\*

	<u>2012 - 2014</u>
1) Average Earned Date of Experience Period	6/30/2013
2) Average Earned Date of Proposed Policy Period	12/1/2017
3) Number of Years from (1) to (2)	4.422
4) Selected Annual Impact	1.90%
5) Factor to Adjust for Subsequent Change in Fixed Expense [ 1.0 + (4) ] ^ (3)	1.087

\* Allstate Insurance Company, Allstate Property and Casualty Insurance Company, Allstate Indemnity Company, Northbrook Indemnity Company, Allstate Fire & Casualty Insurance Company and Allstate County Mutual. Data includes Personal Property Lines (excluding Earthquake) and Private Passenger Automobile Insurance

**ALLSTATE INSURANCE COMPANY  
CONDOMINIUM  
PENNSYLVANIA**

**INVESTMENT INCOME**

Data: Pennsylvania Allstate Insurance Group

Calculation of Present Value, as of the Average Earning Date of a Policy Year,  
of all Income and Outgo @ 2.1% †force of interest, assuming an Operating  
Profit of 5.50% and twelve month Policy Terms

Years From Start of Policy Year	Cumulative Percent of Losses Paid	Yearly Percent of Losses Paid	Time from Start of Policy Year	Discounted ‡ to Average Time of Profit @ 2.1%	Discounted Payments
1	34.1%	34.1%	0.70	1.006	34.3%
2	88.3%	54.2%	1.40	0.992	53.8%
3	94.8%	6.5%	2.40	0.971	6.3%
4	97.6%	2.8%	3.40	0.951	2.7%
5	98.5%	0.9%	4.40	0.931	0.8%
Subsequent	100.0%	1.5%	6.80	0.885	1.3%
<b>Total</b>					99.2%
<b>Expected Losses and Loss Expense Ratio</b>					64.8%
<b>Present Value of Loss and Loss Expense Payments</b>					64.3%
General Expense		5.8%	0.75	1.005	5.8%
Other Acquisition		5.3%	0.63	1.008	5.3%
Taxes		2.0%	0.22	1.017	2.0%
Licenses and Fees		0.1%	0.22	1.017	0.1%
Commissions		11.6%	0.58	1.009	11.7%
Debt Provision		1.4%	1.00	1.000	1.4%
Contingency Provision		2.0%	1.00	1.000	2.0%
Profit		7.1%	1.00	1.000	7.1%
<b>Total Present Value of Outgo</b>					99.7%
<b>Premiums</b>		100.0%	0.78	1.005	100.5%
<b>Difference, Present Value of Income Less Present Value of Outgo</b>					0.8%

†Discount rate from Investment Department forecast

‡exp (force of interest x (timing of profit being earned – timing of cash flow))

**ALLSTATE INSURANCE COMPANY  
CONDOMINIUM  
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**DEVELOPMENT OF PROJECTED AVERAGE EARNED PREMIUM**

Data: Pennsylvania Allstate Insurance Company

Fiscal Year Ending	<u>9/30/2015</u>
1) Earned Exposures	5,332
2) Earned Premium at Current Rates	\$1,941,780
3) Factor to Adjust to Projected Premium Level	1.041
4) Projected Earned Premium at Current Rates (2) x (3)	\$2,021,393
5) Projected Average Earned Premium at Current Rates (4) / (1)	\$379.11
6) Experience Year Weights	100%
7) Projected Average Earned Premium at Current Rates (5) x (6)	\$379.11

**ALLSTATE INSURANCE COMPANY  
CONDOMINIUM  
PENNSYLVANIA**

**CALCULATION OF PREMIUM AND AIY TREND FACTORS**

Data: Pennsylvania Allstate Insurance Company

	<u>Projected</u>
Selected Annual Premium Impacts*	1.50%
Selected Annual AIY Impacts*	0.50%

	<u>Current Year</u>
1) Average Earned Date of Proposed Policy Period	12/1/2017
2) Mid-Point of Current Year's Experience Period	3/31/2015
3) Experience Period Ended	9/30/2015
4) Midpoint of Experience Period	3/31/2015
5) Historical: Number of Years from (4) to (2)	0.000
6) Projected: Number of Years from (2) to (1)	2.671

Calculation of Premium and AIY Trend Factors

Factor to Adjust to Projected Premium Level = Annual Projected Impacts plus unity compounded for the number of years in (6)

Factor to Adjust to Projected AIY Level = Annual Projected Impacts plus unity compounded for the number of years in (6)

\*Premium and AIY trend data on Exhibit 18

**ALLSTATE INSURANCE COMPANY  
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**PREMIUM TRENDS**

Data: Pennsylvania Allstate Insurance Company

Year Ending	Average Written Premium @ CRL	Annual Change	Exponential Curve of Best Fit		
			12 pt.	6 pt.	4 pt.
03/13	\$349.10	1.9%	\$349.98		
06/13	350.61	2.0%	351.69		
09/13	353.27	2.4%	353.41		
12/13	355.64	2.4%	355.13		
03/14	357.58	2.4%	356.87		
06/14	359.65	2.6%	358.61		
09/14	361.31	2.3%	360.36	\$361.38	
12/14	362.47	1.9%	362.12	362.73	
03/15	364.14	1.8%	363.89	364.08	\$364.44
06/15	365.98	1.8%	365.66	365.43	365.61
09/15	366.93	1.6%	367.45	366.79	366.78
12/15	367.74	1.5%	369.24	368.16	367.96
Regression			12 pt.	6 pt.	4 pt.
Avg Annual Percent Change Based on Best Fit:			1.97%	1.50%	1.29%

**AIY TRENDS**

Data: Pennsylvania Allstate Insurance Company

Year Ending	AIY	Annual Change	Exponential Curve of Best Fit		
			12 pt.	6 pt.	4 pt.
03/13	58.89	2.2%	59.25		
06/13	59.08	2.3%	59.51		
09/13	59.78	3.3%	59.77		
12/13	60.12	2.8%	60.03		
03/14	60.62	2.9%	60.29		
06/14	61.08	3.4%	60.55		
09/14	61.20	2.4%	60.81	61.14	
12/14	61.12	1.7%	61.08	61.27	
03/15	61.48	1.4%	61.34	61.39	61.46
06/15	61.55	0.8%	61.61	61.51	61.55
09/15	61.60	0.7%	61.88	61.64	61.64
12/15	61.76	1.1%	62.15	61.76	61.73
Regression			12 pt.	6 pt.	4 pt.
Avg Annual Percent Change Based on Best Fit:			1.75%	0.80%	0.58%

# **ATTACHMENT VI**

## **Impacts and Histograms**

**ALLSTATE INSURANCE COMPANY  
CONDOMINIUM  
PENNSYLVANIA**

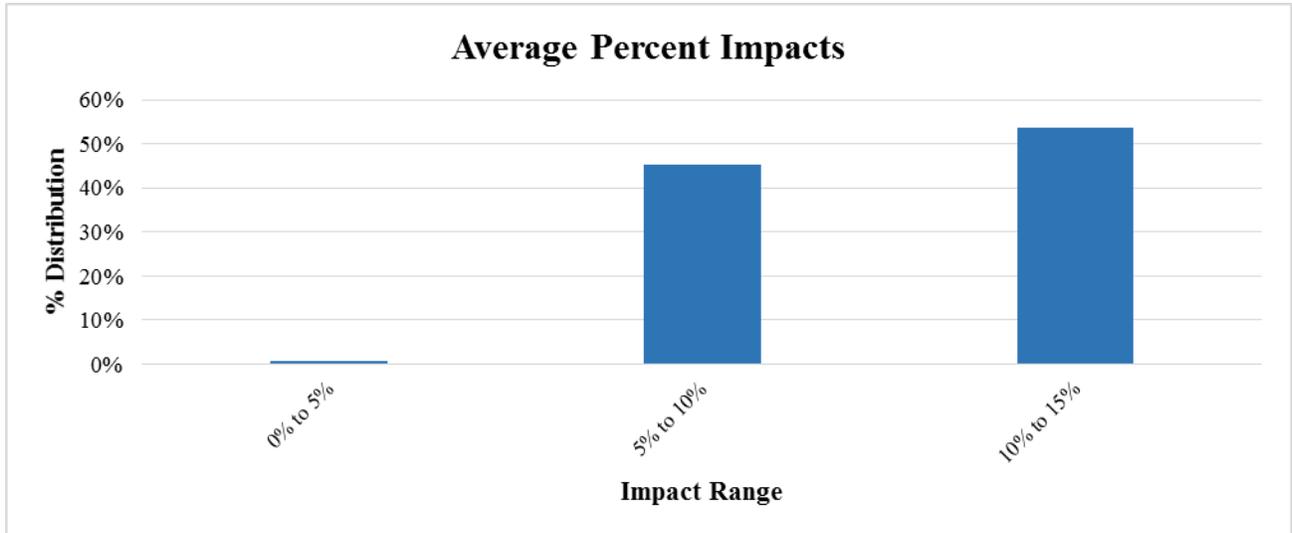
**IMPACTS AND HISTOGRAMS**

The maximum percent impact any single policyholder will receive as a result of this proposed change is 12.5%, the maximum dollar impact is \$19.00 for a policyholder receiving the 12.5% increase. The absolute maximum dollar impact any single policyholder will receive is \$495.00. The minimum percent impact any single policyholder will receive as a result of these proposed changes is 1.8%, the minimum dollar impact is \$9.00 for a policyholder receiving the 1.8% increase. The absolute minimum dollar impact any single policyholder will receive is \$5.00.

The impact tables and histograms on the following pages show the overall premium level changes, including additional coverage and the Reinsurance Charge.

**ALLSTATE INSURANCE COMPANY  
CONDOMINIUM  
PENNSYLVANIA**

**IMPACTS AND HISTOGRAMS**

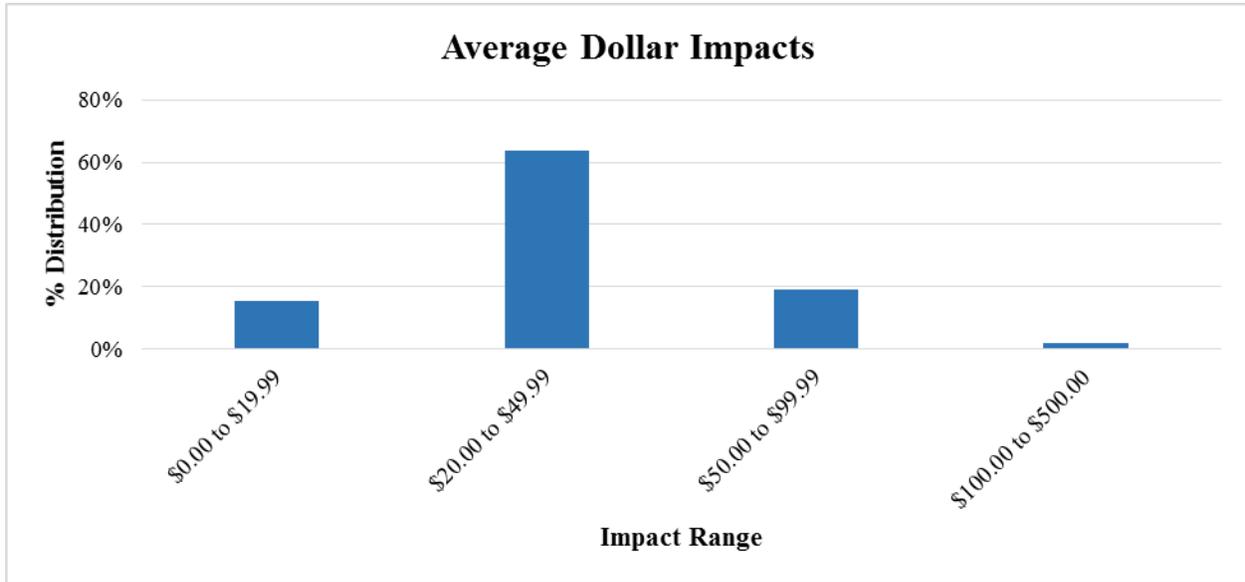


% Impact Interval	Policy Count	Distribution
0% to 5%	38	0.8%
5% to 10%	2,057	45.3%
10% to 15%	2,442	53.8%
<b>Total</b>	<b>4,537</b>	<b>100.0%</b>

Minimum % Impact	Maximum % Impact
1.8%	12.5%

**ALLSTATE INSURANCE COMPANY  
CONDOMINIUM  
PENNSYLVANIA**

**IMPACTS AND HISTOGRAMS**



\$ Impact Interval	Policy Count	Distribution
\$0.00 to \$19.99	707	15.6%
\$20.00 to \$49.99	2,888	63.7%
\$50.00 to \$99.99	864	19.0%
\$100.00 to \$500.00	78	1.7%
<b>Total</b>	<b>4,537</b>	<b>100.0%</b>

Minimum \$ Impact	Maximum \$ Impact
\$5.00	\$495.00

# **ATTACHMENT VII**

## **Summary of Manual Changes**

**ALLSTATE INSURANCE COMPANY  
CONDOMINIUM  
PENNSYLVANIA**

**SUMMARY OF MANUAL CHANGES**

**RULE PAGES**

Page 1: Updated Condominium Rate Adjustment Factor

## CONDOMINIUM

## PENNSYLVANIA RATE PAGE CALCULATION OPTIONS

The following discounts, credits and surcharges should be applied in the order listed.

1. Multiply the appropriate premium from the rate pages by a Rate Adjustment Factor of ~~1.367~~1.534 (Note: Premiums for policies with Coverage C limits less than \$6,000 may be developed by subtracting \$1 per \$1,000 from the \$6,000 premium and then applying the Rate Adjustment Factor.)
2. Not Rented - Multiply by .95  
Rented 1-8 Weeks - Multiply by 1.00  
Rented 9 or More Weeks - Multiply by 1.25
3. \$50, \$500 or \$1,000 Deductible - Multiply \$100 Deductible premium by 1.111, .778 or .700
4. \$250 Theft Deductible - Multiply \$50 or \$100 Deductible premium by .95
5. Home Buyer Discount – Multiply by the appropriate factor (Rule 23)
6. Personal Property Reimbursement Provision - Multiply by 1.25 (Rule 4.B.)
7. Protective Device Discount - Multiply by the appropriate factor (Rule 16)
8. 55 and Retired Discount - Multiply by .75 (Rule 17)
9. Home and Auto Discount - Multiply by .90 (Rule 18)
10. The Good Hands People ® Discount - Multiply by .95 (Rule 19)
11. For Secondary Residence Credit subtract the amount shown on the Supplementary Rate Pages (Rule 8)
12. Rate Transition – Multiply by the Rate Transition Factor (Rule 24)