



**Texas Windstorm
Insurance Association**

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August 13, 2015

Marilyn Hamilton
Property & Casualty Associate Commissioner
Texas Department of Insurance
P.O. Box 149104 M/C 104-PC
Austin, TX 78701

RE: Texas Windstorm Insurance Association Annual Rate Filing

Dear Marilyn:

Section 2210.352 of the Texas Insurance Code states that, not later than August 15 of each year, the Texas Windstorm Insurance Association shall file with the Department a proposed manual rate for all types and classes of risks written by the Association.

This filing is made pursuant to Section 2210.352 (a-1) and fulfills all of the requirements of that subsection.

On August 4, 2015, the Board of Directors of the Association voted to file for uniform 5% increases in both its residential and commercial rates, to be effective January 1, 2016. The increases are based on an actuarial review resulting in indications of +26% and +21% for residential and commercial rates, respectively. The complete residential and commercial analyses are attached.

If you or your staff has any questions or comments, please contact John Polak or me.

Respectfully,

A handwritten signature in black ink, appearing to read "J. Murphy", is written above the printed name.

James C. Murphy

Texas Windstorm Insurance Association

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**TEXAS WINDSTORM INSURANCE ASSOCIATION
COMMERCIAL PROPERTY RATE LEVEL REVIEW
2015**

July 2015

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INTRODUCTION

The Texas Windstorm Insurance Association (TWIA) has completed studies sufficient to support rate level indications for its commercial coverages. This report documents the procedures and results of this analysis.

DISTRIBUTION AND USE

This report was prepared for internal use by the management of TWIA. A complete copy of the report may be submitted to the Texas Department of Insurance (TDI or Department) for use in the approval of a rate change. This report may also be provided to the TWIA actuarial committee. Use of this report for other than the stated purpose may not be proper and must be preceded by written authorization.

RELIANCE UPON DATA

The following data and information used in this analysis were prepared by TWIA and are the responsibility of TWIA's management:

- TWIA losses and loss adjustment expenses
- TWIA written and earned premiums
- History of rate changes impacting TWIA commercial premium
- TWIA's statutory annual statements and insurance expense exhibits.

At the time of this analysis, some of the data was unaudited. The data was reviewed for reasonableness and consistency, and the TWIA written premium and paid loss data provided for this analysis were reconciled to TWIA's annual statements.

In addition to TWIA's own data, we utilized insurance industry premium and loss data supplied by the TDI.

We also used the results of two different hurricane simulation models -- one prepared by Applied Insurance Research (AIR) and one model prepared by Risk Management Solutions (RMS). Both models utilized TWIA exposure data as of 12/15/14. TWIA has not directly verified the accuracy of these simulation models, but has relied on documentation provided directly by the modeling firms and submission documentation provided to the Florida Commission on Hurricane Loss Projection Methodology to comply with Actuarial Standard of Practice #38, "Using Models Outside the Actuary's Area of Expertise."

LIMITATIONS

The indicated rate level change as shown in this report represents a reasonable estimate of the rate level necessary to cover the TWIA's expected costs of providing commercial wind/hail coverage. The actual costs of providing commercial property coverage for a specific year may differ substantially from the indicated rate level range shown in this report. The possibility of this variability arises from the fact that the events covered by TWIA are inherently unpredictable from year to year. The indicated rate level is, however, our best estimate of the expected annual cost of providing commercial wind/hail coverage.

This actuarial report provides professional input and guidance to TWIA; however, the final decision regarding implementation and actual rate level change is a management decision.

The attached exhibits should be considered an integral part of this report.

EXECUTIVE SUMMARY

This section provides a brief synopsis of the key findings and recommendations contained in our study.

1. We have estimated the indicated total rate level change using a combination of two different methodologies for projecting the expected hurricane portion of the indicated rate level. The indicated total rate level changes are shown in Exhibit 1 and the following table:

Indicated Rate Change: Long Term Hurricane Methodologies

Hurricane Projection Methodology	Indicated Rate Change
Actual Experience and Models Combined	+21%
Actual Industry Experience	+18%
Hurricane Simulation Models	+24%

The indicated rate change shown is based on a combination of actual industry experience and hurricane simulation models. The indications based on each of these methodologies alone are also shown for reference. All methodologies use a long-term approach to develop the hurricane portion of the indicated rate level.

The hurricane simulation models utilized are widely used for insurance company catastrophe management and ratemaking. Versions of these simulation models have undergone verification by and been approved by the Florida Commission on Hurricane Loss Projection Methodology.

2. The indicated rate level change includes different hurricane projection methodologies. The different methods were used because the actuarial methods used to incorporate hurricane losses into rate indications are still evolving. Traditionally, actuarial methods have been based on insurance industry hurricane loss experience. More recently, actuarial methods have incorporated the results of hurricane simulation models to minimize the weaknesses of the traditional approaches.

The method using actual industry experience relies on a more traditional approach and is based on 45 years of actual insurance industry premiums and losses and 164 years of actual hurricane experience. This method possesses the advantage of finding broader regulatory acceptance in many states (including Texas). The alternate method incorporates the results of hurricane simulation models. This has the advantage of minimizing many of the theoretical weaknesses of the traditional actuarial methodologies. The overall indication assigns equal weight to these hurricane projection methodologies.

3. The current rate indication is 3% less than the corresponding indication from the prior TWIA commercial rate study. A 5% rate increase, effective January 1, 2015, and the introduction of actual losses and expenses from 2014 are the primary reasons for the change.

Details on the key differences between the current and prior rate indications are described in the Analysis section of this report.

4. The indicated rate changes presented in this report reflect a separate provision for contributions to funding, including provisions for both the Catastrophe Reserve Trust Fund and the repayment of outstanding pre-event Class 1 public securities. The total funding provision is 20% of TWIA premium. The CRTF provision is necessary to rebuild the fund, which was completely depleted in order to pay losses associated with 2008 hurricanes. The Class 1 securities provision is necessary to repay \$500 million in outstanding debt issued in 2014.

The provision for reinsurance expense is 16.3% of TWIA premium. The provision for reinsurance expense reflects the estimated actual net cost of purchasing catastrophe reinsurance (reinsurance premiums paid net of the expected reduction in TWIA retained losses). Catastrophe reinsurance provides TWIA with annually renewable protection against large storm losses.

ACTUARIAL ANALYSIS

Overview of Analysis

The goal of the rate level adequacy review is to compare the current rate level to TWIA's expected costs for providing commercial property insurance coverage. This comparison is achieved by estimating the projected loss, loss adjustment expense (LAE), and fixed expense ratio for a prospective accident year and then comparing this ratio to the "permissible" loss, LAE, and fixed expense ratio. The permissible ratio is the portion of premium remaining to pay loss, LAE, and fixed expenses after payment of TWIA variable expenses. If the projected ratio is higher than the permissible ratio, then a rate increase is indicated. If the projected ratio is lower than the permissible, then a rate decrease is indicated.

The steps employed to estimate the projected loss, LAE, and fixed expense ratio are as follows:

1. Adjust historical premium to the current rate level (to facilitate calculation of historical loss ratios at current rates).
2. Determine LAE factors to add projected LAE to projected loss.
3. Estimate the projected non-hurricane loss and LAE ratio.
4. Estimate the projected hurricane loss and LAE ratio.
5. Estimate the projected fixed expense ratio.
6. Sum the projected non-hurricane and hurricane loss ratios and the projected fixed expense ratio to obtain the projected total loss, LAE, and fixed expense ratio.

The steps employed to determine the permissible loss and LAE ratio are as follows:

- (a) Analyze historical variable expense to premium ratios to estimate the projected total variable expense ratio.
- (b) Subtract the projected total variable expense ratio from 1.00 to derive the permissible loss, LAE and fixed expense ratio.

Steps 1-5 and (a)-(b) are described in more detail in the remainder of this report.

Earned Premium at Current Rates

Historical TWIA written premium is adjusted to the current rate level and adjusted to an earned basis based on a uniform monthly earning assumption. Earned premium at current rates for prior years permits the calculation of historical loss ratios at the current rate level. Exhibit 10 shows the calculation of earned premium at current rates.

Loss Adjustment Expense Factors

In Exhibit 4, the historical ratio of LAE to loss is analyzed to develop LAE factors. Separate LAE factors are developed for hurricane and non-hurricane losses. The hurricane LAE factors are developed based on the LAE to loss ratio for years with hurricanes. The non-hurricane LAE factors are developed based on the ratio for years without hurricanes. TWIA statutory annual statement incurred loss and LAE data is utilized to derive these ratios.

The indicated LAE to loss ratios are shown in Exhibit 4, Sheet 1. For hurricane losses, the indicated LAE ratio of 0.120 is equal to the weighted average of the nine hurricane years included in the analysis. For non-hurricane losses, the indicated ratio of 0.199 is equal to the weighted average of the most recent 10 non-hurricane years included in the analysis.

The development of these LAE factors is necessary to add LAE to the projected hurricane and non-hurricane loss ratios. The development of loss ratios is described in the following sections.

Projected Non-Hurricane Loss and LAE Ratio

Exhibit 2 shows the development of the projected non-hurricane loss and LAE ratio. The loss portion of this ratio is estimated by comparing the indicated ultimate non-hurricane loss for accident years 2005 - 2014 to the earned premium at current rates for the same ten years. The indicated ultimate non-hurricane loss for each year is based on actual paid loss as of 12/31/14 and the paid loss development method. LAE is then added to each year's ultimate loss through the non-hurricane LAE factor developed in Exhibit 4.

Paid loss development factors are selected based on both the current average of all available years and the prior selection. Given the positive skewness of the observed age-to-age

development factors, a straight average may be more preferable than an average excluding the highest and lowest observation to avoid understating the expected development.

Each year's estimated ultimate loss and LAE is compared to the earned premium at present rates.

The resulting loss and LAE ratios are then trended forward to the expected prospective inflation level. The net trend factor is equal to a loss trend offset by a premium trend. The loss trend is calculated using industry-wide construction cost and consumer price indices. Premium trend is derived from historical changes in average earned premium at present rates. Both premiums and losses are trended to current levels by applying the actual, historical changes in the appropriate data. Future premium and loss trends are selected based on all available and relevant data. Because the selected trends are estimates of the future trend between the current and prospective earned and accident dates, and because they are not used to trend historical experience to current premium and loss levels, it may not be necessary to use experience only from periods where both premium and loss data are available.

The resulting loss and LAE ratios for each accident year from 2005 - 2014 form the basis for the indicated projected loss and LAE ratio. The indicated loss and LAE ratio equals the premium-weighted average ratio from the 2005 - 2014 accident period. This method gives greater weight to more recent years due to TWIA's growth. Given the greater credibility normally associated with more recent experience and the potentially significant change in TWIA's commercial book of business due to the growth, this weighting may be more appropriate than a non-weighted average across all years.

Projected Hurricane Loss and LAE Ratio

Two different methods are used to develop the projected hurricane loss and LAE ratios. The first method is based on insurance industry and meteorological hurricane experience for the last 45 and 164 years, respectively. The other method is based on hurricane simulation models. The "45/164-year" method is utilized because the Texas Insurance Code required until recently the consideration of a 30-year minimum experience period. The simulation method is utilized because it minimizes many of the theoretical weaknesses of the historical method. These weaknesses include:

- A 45-year period is insufficient to measure long-term hurricane intensity.

- A 45-year period of insurance industry experience includes years where land use, population densities, construction techniques and materials, engineering techniques and building codes were different than today. These differences diminish the relevance of insurance data from several decades ago in evaluating today's commercial property rates.

Differences between the two methods are the result of expected variances in the frequency and severity of hurricanes, and fundamental differences between the aggregate historical industry exposures and current TWIA exposures. Because of the readily identifiable nature of hurricanes, there should be no over- or understatement of expected losses resulting from either method.

For each method, the projected hurricane loss ratio is estimated first. LAE is added to each loss ratio using the hurricane LAE factor developed in Exhibit 4. Each method's development of the projected hurricane loss ratio is described as follows:

Actual 45/164-Year Industry Hurricane Experience

In Exhibit 6, Texas insurance industry seacoast dwelling extended coverage experience for the 1970-2014 period is used in the development of a projected hurricane loss ratio. For each year, insurance industry loss ratios at current rates are calculated using information provided by the TDI. For the years where sufficient detail is available (1982-2014), these loss ratios are adjusted to TWIA's rate level and re-weighted based on the TWIA's current premium distribution by territory within the seacoast area.

A projected hurricane loss ratio is developed from these 45 years of loss ratios by separating the 45 years into the twelve hurricane years and thirty-three non-hurricane years. The 33 non-hurricane years are used to develop an estimated non-hurricane loss ratio.

Hurricane loss ratios are then estimated by subtracting the non-hurricane loss ratio from the total loss ratio in each of the twelve hurricane years. An average hurricane loss ratio for hurricane years is calculated as the average of the twelve hurricane loss ratios: 112.0%.

The 45-year period that underlies the selected hurricane loss ratio has experienced significantly fewer hurricanes than the long-term average. As shown in Exhibit 9, the annual hurricane frequency during this 45-year period is 0.287, while the annual frequency during the most recent 164-year period is 0.384. The 45-year period represents all years for which TWIA has been provided industry data by TDI. Because the expected frequency of hurricanes is unrelated to the availability of insurance industry data, there is no reason to use only the most recent 45-year period to estimate the expected frequency of hurricane activity. Given the relatively infrequent occurrence of hurricanes, the largest possible experience period should be considered in order to obtain the most credible result. The selected hurricane frequency is therefore set equal to the 164-year historical hurricane frequency. As shown in Exhibit 6, Sheet 1, multiplying the selected loss ratio for hurricane years by the selected hurricane frequency yields a projected hurricane loss ratio of 39.9%.

Hurricane Simulation Models

The projected hurricane loss ratio is determined by averaging two different hurricane simulation models: AIR Touchstone v2.0.1 and RMS RiskLink v13.1. Both models were run using exposure data provided by TWIA as of 12/15/2014. This exposure data included location-level detail including physical characteristics of each risk and all relevant coverages. Both models were run using historical (long-term) event rates and both results include loss amplification (demand surge) and exclude storm surge and loss adjustment expenses. A separate provision for storm surge was included, equal to 10% of the increase in modeled average annual losses due to the inclusion of storm surge in the model output. The AIR and RMS models generated 4,742 and 9,772 unique events, respectively, with the following distribution of intensity ratings in Texas:

Saffir-Simpson Category	AIR	RMS
Category 0	14.9%	61.4%
Category 1	34.8%	12.0%
Category 2	22.4%	6.5%
Category 3	19.3%	8.0%
Category 4	7.6%	9.7%
Category 5	1.0%	2.5%

The intensity at first landfall is shown for AIR and RMS events. Events shown as Category 0 include bypassing events and events making landfall in neighboring states or Mexico in addition to Cat 0 events that make landfall in TX.

As shown in Exhibits 7 and 8, these models yield projected hurricane loss ratios of 41.5% and 44.8%. The average of these loss ratios is 43.2%.

Fixed Expenses and Variable Permissible Loss and LAE Ratio

Exhibit 11 shows the expense assumptions used to develop the projected fixed expense ratio and the variable permissible loss and LAE ratio. Fixed expenses include general expenses and the net cost of reinsurance. The sum of these projected expenses provides for a 21.5% fixed expense ratio. Variable expenses include commission, taxes, and catastrophe trust fund contribution. Subtracting these expenses from 100% yields a variable permissible loss and LAE ratio of 62.0%.

As stated above, the expenses include a provision for an annual contribution to the catastrophe reserve trust fund, repayment of Class 1 public securities, and the projected net cost of TWIA's purchasing of reinsurance. The 20% provision for funding contribution is intended to permit the redevelopment of the catastrophe reserve trust fund and to repay outstanding pre-event public securities in order to reduce the potential for future year surcharges on TWIA and coastal insurance policies and assessments to TWIA members. The 16.3% provision for reinsurance expense reflects the estimated net actual cost of purchasing reinsurance (reinsurance premiums net of the expected reduction in TWIA retained losses). TWIA's purchasing of reinsurance provides additional current year protection to TWIA and coastal policyholders and TWIA members.

Indicated Rate Change

Exhibit 1 summarizes the indicated rate change using a combination of the two hurricane loss ratio projection methods. The individual indications resulting from the use of each methodology are also shown for reference. The indicated rate change for each method is calculated by dividing the total projected loss, LAE, and fixed expense ratio by the variable permissible loss

and LAE ratio. This method of calculating the indicated rate change assumes that TWIA's variable expenses vary proportionally with premium while the fixed expenses do not.

Data Issues

Reconciliation of Data to TWIA's Annual Statements

Exhibit 12, Sheets 1 and 2 show a reconciliation of the TWIA premium and loss data used in this report (ratemaking data) to TWIA's annual statements. Sheet 1 reconciles paid loss data by accident year; Sheet 2 reconciles written premium data by calendar year.

The paid loss reconciliation shows small differences between the ratemaking paid loss data and the annual statement data for all accident years except 2008 where relatively larger differences are indicated.

The written premium reconciliation shows the differences between the ratemaking written premium data and the annual statement data for calendar years 1992 - 2014. Differences of less than 1% exist for all recent years except 2010.

Key Differences Versus Prior Indications

The indicated rate change shown in this report is 1% less than the comparable indication based on the prior (August 2014) study. The reasons for the lower indications are summarized in the following table.

Reconciliation of Current vs. Prior Indications

Rate Indication/Reason for Change	Impact of Change	Rate Indication
<i>Previous Rate Indication (Combined Method)</i>		+24%
TWIA Rate Level	-6%	
Change in Experience Period	+3%	
<i>Current Rate Indication (Combined Method)</i>		+21%

These reasons are discussed below:

TWIA Rate Level

The TWIA rate level increased 5% as a result of the most recent filing. This has a 6% impact (reduction) on indicated rates.

Change in Experience Period

The indicated rate change increased approximately 3% as a result of increases in the fixed expense provision and non-hurricane provision introduced with the most recent experience period.

SUMMARY OF EXHIBITS

<u>Exhibit Number</u>	<u>Exhibit Title or Purpose</u>
1	Summary of Indicated Rate Change
2	Projected Ultimate Non-Hurricane Loss & LAE Ratio
3	Paid Loss Development Factors and Premium and Loss Trend Analysis
4	Development of LAE Factor
5	Summary of Indicated Hurricane Loss & LAE Ratios
6	Development of Hurricane Loss Ratio – 45/164-Year Method
7	Hurricane Loss Ratio – AIR Model
8	Hurricane Loss Ratio – RMS Model
9	Texas Hurricanes 1850 - 2014
10	Earned Premium at Present Rates
11	Fixed Expenses and Variable Permissible Loss & LAE Ratios
12	Reconciliation of Premium Data to Annual Statement
13	Analysis of Current and Proposed Net Premium Income

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
 Summary of Indicated Rate Change
 By Method for Projecting Hurricane Loss & LAE

Exhibit 1

Hurricane Projection Method (1)	Indicated Loss & LAE Ratio			Fixed Expenses (4)	Total (5)	Variable Permissible LLAE Ratio (6)	Indicated Rate Change (7)	Proposed Rate Change (8)
	Hurricane (2)	Non-Hurricane (3)						
Using Experience and Models	46.6%	7.0%	21.5%	75.1%	62.0%	+21%	+5.0%	
Using Actual Industry Experience	44.7%	7.0%	21.5%	73.2%	62.0%	+18%		
Using Hurricane Models	48.4%	7.0%	21.5%	76.9%	62.0%	+24%		

Notes:

- (2) Exhibit 5
- (3) Exhibit 2, Sheet 1
- (4) Exhibit 11
- (5) = (2) + (3) + (4)
- (6) Exhibit 11
- (7) = (5) / (6) - 1
- (8) Selected

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review

Exhibit 2
Sheet 1

Projected Ultimate Non-Hurricane Loss & LAE Ratio

Accident Year	Ultimate Non-Hurricane Loss	LAE Factor	Net Trend Factor	Projected Non-Hurricane Loss & LAE	Earned Premium at Current Rate Level	Indicated Non-Hurricane Loss & LAE Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2005	2,492,327	0.199	1.648	4,924,719	63,879,768	7.7%
2006	1,517,386	0.199	1.485	2,701,729	97,889,781	2.8%
2007	1,230,788	0.199	1.414	2,086,661	151,470,353	1.4%
2008	1,127,682	0.199	1.438	1,944,306	158,910,515	1.2%
2009	2,586,651	0.199	1.341	4,158,970	144,470,004	2.9%
2010	7,527,998	0.199	1.279	11,544,343	137,009,901	8.4%
2011	19,452,204	0.199	1.161	27,078,227	125,942,649	21.5%
2012	13,949,343	0.199	1.188	19,869,612	124,750,822	15.9%
2013	8,112,018	0.199	1.160	11,282,519	126,332,963	8.9%
2014	1,056,106	0.199	1.078	1,365,040	117,294,612	1.2%
Total	59,052,503			86,956,126	1,247,951,368	7.0%

Notes:

- (2) Exhibit 2, Sheet 2
- (3) Exhibit 4, Sheet 1
- (4) = Exhibit 2, Sheet 4
- (5) = (2) * [1 + (3)] * (4)
- (6) Exhibit 10, Sheet 1
- (7) = (5) / (6)

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
 Projected Ultimate Non-Hurricane Loss

Exhibit 2
 Sheet 2

Accident Year	TWIA Non-Hurricane Paid Loss	Development Factor	Ultimate Non-Hurricane Loss
(1)	(2)	(3)	(4)
2005	2,492,327	1.000	2,492,327
2006	1,517,386	1.000	1,517,386
2007	1,230,788	1.000	1,230,788
2008	1,127,682	1.000	1,127,682
2009	2,553,456	1.013	2,586,651
2010	7,280,462	1.034	7,527,998
2011	18,758,152	1.037	19,452,204
2012	13,134,975	1.062	13,949,343
2013	7,242,873	1.120	8,112,018
2014	640,841	1.648	1,056,106
Total	55,978,942		59,052,503

Notes:

(2) Exhibit 2, Sheet 3, as of 12/31/14

(3) Exhibit 3, Sheet 1

(4) = (2) * (3)

**Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review**

Summary of TWIA Historical Paid Loss as of 12/31/14

Accident Year	Paid Loss Excluding Expense		
	Non-Hurricane (1)	Hurricane (2)	Total (3)
2005	2,492,327	68,682,146	71,174,473
2006	1,517,386	0	1,517,386
2007	1,230,788	4,379,850	5,610,638
2008	1,127,682	851,150,739	852,278,421
2009	2,553,456	0	2,553,456
2010	7,280,462	0	7,280,462
2011	18,758,152	0	18,758,152
2012	13,134,975	0	13,134,975
2013	7,242,873	0	7,242,873
2014	640,841	0	640,841
Total	55,978,942	924,212,735	980,191,677

Notes:

(2), (3) Provided by TWIA, includes commercial and farm

(4) = (2) + (3)

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
 Calculation of Net Trend Factors

Exhibit 2
 Sheet 4

Year / Quarter	Average EPPR		
(1)	(2)		
2007 / 4	11,057.84	(3) Current Average Earned Date	7/1/2014
2008 / 4	10,944.73	(4) Current Average Accident Date	7/1/2014
2009 / 4	10,288.17	(5) Prospective Average Earned / Accident Date	1/1/2017
2010 / 4	10,109.98	(6) Premium Trend Length	2.500
2011 / 4	9,411.94	(7) Loss Trend Length	2.500
2012 / 4	9,758.21	(8) Selected Premium Trend	-1.2%
2013 / 4	9,700.53	(9) Selected Loss Trend	1.8%
2014 / 4	9,211.24		

Accident Year	Current Premium Trend	Current Loss Trend	Prospective Premium Trend	Prospective Loss Trend	Net Trend Factor
(10)	(11)	(12)	(13)	(14)	(15)
2005	0.813	1.243	0.970	1.046	1.648
2006	0.823	1.134	0.970	1.046	1.485
2007	0.833	1.093	0.970	1.046	1.414
2008	0.842	1.123	0.970	1.046	1.438
2009	0.895	1.114	0.970	1.046	1.341
2010	0.911	1.081	0.970	1.046	1.279
2011	0.979	1.054	0.970	1.046	1.161
2012	0.944	1.040	0.970	1.046	1.188
2013	0.950	1.022	0.970	1.046	1.160
2014	1.000	1.000	0.970	1.046	1.078

Notes:

- (2) Exhibit 3, Sheet 2 (10)
- (3) Latest Year / Quarter Ending Date - 6 Months
- (4) Latest Accident Year Ending Date - 6 Months
- (5) Rate Effective Date + 12 Months
- (6) = (5) - (3)
- (7) = (5) - (4)
- (8) Exhibit 3, Sheet 2
- (9) Exhibit 3, Sheet 3a
- (11) = (2) Indexed to 2014 / 4
- (12) Exhibit 3, Sheet 3a
- (13) = [1 + (8)] ^ (6)
- (14) = [1 + (9)] ^ (7)
- (15) = [(12) * (14)] / [(11) * (13)]

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Paid Loss Development Factors
TWIA Commercial Property Paid Loss

Exhibit 3
Sheet 1

Accident Year	Months of Development							
	12 (1)	24 (2)	36 (3)	48 (4)	60 (5)	72 (6)	84 (7)	(8)
2005		1,414	1,943	2,100	2,100	2,100	2,335	2,492
2006		1,210	1,517	1,517	1,517	1,517	1,517	1,517
2007		1,095	1,225	1,231	1,231	1,231	1,231	1,231
2008		952	1,040	1,040	1,128	1,128	1,128	1,128
2009		706	2,289	2,553	2,553	2,553	2,553	
2010		4,489	6,162	6,783	7,280	7,280		
2011		13,360	16,138	18,435	18,758			
2012		8,512	11,404	13,135				
2013		6,886	7,243					
2014		641						

Accident Year	Development Factors						
	12 - 24 (1)	24 - 36 (2)	36 - 48 (3)	48 - 60 (4)	60 - 72 (5)	72 - 84 (6)	84 - Ult (7)
2005		1.375	1.081	1.000	1.000	1.112	1.067
2006		1.254	1.000	1.000	1.000	1.000	1.000
2007		1.118	1.005	1.000	1.000	1.000	1.000
2008		1.093	1.000	1.085	1.000	1.000	1.000
2009		3.241	1.115	1.000	1.000	1.000	
2010		1.373	1.101	1.073	1.000		
2011		1.208	1.142	1.018			
2012		1.340	1.152				
2013		1.052					
Average		1.460	1.071	1.025	1.000	1.022	1.017
Avg x hi / lo		1.251	1.074	1.018	1.000	1.000	1.000
Avg 3 Year		1.200	1.132	1.030	1.000	1.000	1.000
Avg 5 Year		1.643	1.102	1.035	1.000	1.022	1.017
Prior		1.483	1.039	1.023	1.006	1.020	1.008
Selected		1.471	1.055	1.024	1.003	1.021	1.013
Cumulative		1.648	1.120	1.062	1.037	1.034	1.013

Notes:

Provided by TWIA, includes commercial and farm,
excludes hurricanes Brett (1999), Claudette (2003), Rita (2005), Humberto (2007), Dolly (2008), and Ike (2008)

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Premium Trend Analysis
TWIA Commercial Earned Premium at Present Rates

Year / Quarter	Policies In-Force	Annualized		On- Level Factors	Premium at Present Rates		Earned Premium at Present Rates		Exponential Fitted Trends			
		In-Force	Written Premium		Written	Earned	Annualized	Average	All-Year	5-Year	4-Year	3-Year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2006 / 2	11,554		17,237,202	1.742	30,020,244	18,638,747						
2006 / 3	12,798		24,440,342	1.693	41,385,058	22,932,203						
2006 / 4	13,104		25,268,242	1.613	40,747,289	28,954,432						
2007 / 1	13,418		19,686,371	1.555	30,613,332	33,881,627	104,407,009					
2007 / 2	14,309	13,063	33,066,784	1.555	51,420,571	37,972,681	123,740,942	9,472.72	10,866.24			
2007 / 3	15,543	13,750	34,446,242	1.555	53,565,700	42,942,337	143,751,076	10,454.34	10,809.90			
2007 / 4	15,186	14,354	23,752,321	1.555	36,936,096	43,924,773	158,721,417	11,057.84	10,753.86			
2008 / 1	14,705	14,775	17,918,266	1.508	27,012,678	43,285,461	168,125,252	11,379.13	10,698.10			
2008 / 2	14,506	14,960	29,792,537	1.475	43,955,358	42,167,198	172,319,769	11,518.41	10,642.64			
2008 / 3	15,154	14,936	31,242,113	1.475	46,094,035	39,104,238	168,481,670	11,279.96	10,587.46			
2008 / 4	14,627	14,818	19,084,269	1.475	28,156,577	37,620,805	162,177,702	10,944.73	10,532.56			
2009 / 1	14,096	14,672	22,603,019	1.330	30,067,363	36,396,692	155,288,933	10,584.12	10,477.96			
2009 / 2	13,835	14,512	31,063,838	1.276	39,646,204	36,322,800	149,444,535	10,298.09	10,423.63			
2009 / 3	14,052	14,290	34,959,552	1.276	44,618,232	36,358,849	146,699,147	10,265.68	10,369.59			
2009 / 4	13,862	14,057	22,643,071	1.276	28,898,934	35,541,185	144,619,526	10,288.17	10,315.83			
2010 / 1	13,510	13,888	21,743,758	1.276	27,751,157	35,441,209	143,664,044	10,344.47	10,262.34	10,100.70		
2010 / 2	13,517	13,775	30,585,736	1.276	39,036,011	35,142,448	142,483,691	10,343.64	10,209.13	10,060.64		
2010 / 3	13,796	13,703	30,105,285	1.276	38,422,820	33,946,043	140,070,885	10,221.73	10,156.20	10,020.74		
2010 / 4	13,497	13,626	19,736,774	1.276	25,189,681	33,225,111	137,754,811	10,109.98	10,103.55	9,981.00		
2011 / 1	13,063	13,524	18,744,820	1.216	22,784,446	32,094,679	134,408,281	9,938.41	10,051.16	9,941.41	9,702.63	
2011 / 2	12,873	13,388	28,450,431	1.216	34,581,677	30,640,542	129,906,376	9,703.38	9,999.05	9,901.98	9,688.72	
2011 / 3	13,052	13,214	30,646,904	1.216	37,251,503	30,485,357	126,445,690	9,568.89	9,947.21	9,862.71	9,674.83	
2011 / 4	13,168	13,080	22,169,693	1.216	26,947,400	29,888,731	123,109,310	9,411.94	9,895.64	9,823.59	9,660.96	
2012 / 1	13,081	13,041	23,778,724	1.158	27,526,845	30,944,360	121,958,990	9,351.79	9,844.33	9,784.63	9,647.11	9,660.67
2012 / 2	12,750	13,028	31,324,576	1.158	36,262,112	32,032,946	123,351,394	9,468.08	9,793.29	9,745.83	9,633.27	9,646.05
2012 / 3	13,263	13,039	32,445,954	1.158	37,560,247	31,980,189	124,846,226	9,574.74	9,742.52	9,707.17	9,619.46	9,631.45
2012 / 4	13,030	13,048	22,975,141	1.158	26,596,598	32,370,079	127,327,575	9,758.21	9,692.00	9,668.67	9,605.67	9,616.88
2013 / 1	12,985	13,019	23,791,092	1.103	26,229,679	31,906,934	128,290,148	9,854.07	9,641.75	9,630.32	9,591.90	9,602.32
2013 / 2	12,897	13,025	32,039,377	1.103	35,323,413	31,433,748	127,690,950	9,803.25	9,591.77	9,592.13	9,578.14	9,587.79
2013 / 3	13,143	13,029	34,754,762	1.103	38,317,125	31,718,238	127,429,000	9,780.60	9,542.04	9,554.09	9,564.41	9,573.28
2013 / 4	13,048	13,016	22,450,741	1.103	24,751,942	31,203,136	126,262,056	9,700.53	9,492.56	9,516.19	9,550.70	9,558.80
2014 / 1	12,868	13,004	21,224,872	1.050	22,286,116	30,435,436	124,790,558	9,596.60	9,443.35	9,478.45	9,537.00	9,544.33
2014 / 2	12,822	12,980	34,383,166	1.050	36,102,324	30,277,621	123,634,431	9,525.27	9,394.39	9,440.86	9,523.33	9,529.89
2014 / 3	12,594	12,902	28,579,062	1.050	30,008,015	28,923,126	120,839,318	9,366.21	9,345.68	9,403.41	9,509.67	9,515.46
2014 / 4	12,390	12,751	20,489,611	1.050	21,514,092	27,813,979	117,450,161	9,211.24	9,297.23	9,328.97	9,496.04	9,501.07
(14) Average Annual Change									-2.1%	-1.6%	-0.6%	-0.6%
(15) Correlation Coefficient									57.9%	49.6%	10.3%	6.5%
(16) Selected Premium Trend												-1.2%

- Notes:
- (2) Provided by TWIA
 - (3) Calculated from (2) using uniform quarterly earning assumption
 - (4) Provided by TWIA
 - (5) Factor to bring written premium to current rate level
 - (6) = (4) * (5) Indexed to 2013 / 4
 - (7) Calculated from (6) using uniform monthly earning assumption
 - (8) = Sum of (7) for prior 4 quarters
 - (9) = (8) / (3)
 - (10) - (13) = (9) fitted to an exponential distribution, excluding 2007 / 2 - 2007 / 4
 - (14) Fitted average annual change, excluding 2007 / 2 - 2007 / 4
 - (15) Evaluates the predictability of the fitted curve
 - (16) Selected based on judgment

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Loss Trend Analysis
Summary of Indices and Calculation of Prospective Loss Costs

Calendar Year Ending 12/31/xx	<u>Commercial</u>		<u>Residential</u>		Modified CPI	Weighted Average
	Statewide Boeckh	Coastal Boeckh	Statewide Boeckh	Coastal Boeckh		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2005			1.278	1.291	1.100	1.243
2006	1.157	1.153	1.199	1.208	1.075	1.134
2007	1.116	1.106	1.153	1.160	1.052	1.093
2008	1.137	1.150	1.134	1.133	1.042	1.123
2009	1.116	1.134	1.112	1.106	1.055	1.114
2010	1.076	1.089	1.105	1.108	1.055	1.081
2011	1.053	1.059	1.092	1.101	1.039	1.054
2012	1.041	1.047	1.063	1.072	1.019	1.040
2013	1.023	1.025	1.033	1.041	1.014	1.022
2014	1.000	1.000	1.000	1.000	1.000	1.000

Factors to Adjust For Prospective Loss Costs

(8) Fitted Trend	1.8%	2.0%	2.4%	2.2%	1.3%	1.8%
(9) Cost Factor	1.045	1.050	1.060	1.057	1.032	1.046

Notes:

- (2) = Exhibit 3, Sheet 3b trended forward to 12/31/2014
- (3) = Exhibit 3, Sheet 3c trended forward to 12/31/2014
- (4) = Residential Exhibit 3, Sheet 3b trended forward to 12/31/2014
- (5) = Residential Exhibit 3, Sheet 3c trended forward to 12/31/2014
- (6) = Exhibit 3, Sheet 3d
- (7) = 25% CPI and 75% Boeckh (most appropriate available by year)
- (8) = (2) - (7) fitted to an exponential curve using 5 years' data (where available)
- (9) = $[1 + (8)]^{2.5}$ (trended from 7/1/2014 to 1/1/2017)

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Loss Trend Analysis
Boeckh Commercial Construction Index Trend (Statewide)

Exhibit 3
Sheet 3b

Calendar Year Ending	Texas Statewide Index	Fitted Trends All Years	
		Linear	Exponential
(1)	(2)	(3)	(4)
3/31/2005	1939.13		
6/30/2005	1964.32		
9/30/2005	1986.91		
12/31/2005	2002.86		
3/31/2006	2017.57		
6/30/2006	2035.39		
9/30/2006	2055.55		
12/31/2006	2078.92	2074.38	2078.24
3/31/2007	2108.32	2084.29	2087.47
6/30/2007	2141.00	2094.20	2096.73
9/30/2007	2157.97	2104.11	2106.04
12/31/2007	2155.18	2114.02	2115.38
3/31/2008	2141.73	2123.93	2124.77
6/30/2008	2124.68	2133.84	2134.20
9/30/2008	2115.34	2143.75	2143.67
12/31/2008	2116.48	2153.66	2153.18
3/31/2009	2120.06	2163.57	2162.74
6/30/2009	2123.27	2173.48	2172.33
9/30/2009	2134.79	2183.39	2181.97
12/31/2009	2155.82	2193.30	2191.66
3/31/2010	2180.78	2203.21	2201.38
6/30/2010	2204.90	2213.12	2211.15
9/30/2010	2223.98	2223.03	2220.96
12/31/2010	2236.19	2232.94	2230.82
3/31/2011	2248.44	2242.85	2240.72
6/30/2011	2260.70	2252.76	2250.66
9/30/2011	2272.99	2262.67	2260.65
12/31/2011	2284.97	2272.58	2270.68
3/31/2012	2294.30	2282.49	2280.76
6/30/2012	2299.84	2292.40	2290.88
9/30/2012	2304.51	2302.31	2301.05
12/31/2012	2312.15	2312.22	2311.26
3/31/2013	2321.41	2322.13	2321.52
6/30/2013	2332.27	2332.04	2331.82
9/30/2013	2342.44	2341.95	2342.17
12/31/2013	2352.25	2351.86	2352.56
3/31/2014	2364.19	2361.77	2363.00
6/30/2014	2378.50	2371.68	2373.49
9/30/2014	2392.72	2381.59	2384.02
12/31/2014	2405.99	2391.50	2394.60
Annual Trend		1.7%	1.8%
R-Squared		0.937	0.936

Notes:

- (2) = Average Index for Austin, Corpus Christi, Dallas, El Paso, Fort Worth, Houston, Odessa, and San Antonio
- (3) - (4) = (2) fitted to linear and exponential distributions

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review

Loss Trend Analysis
Boeckh Commercial Construction Index Trend (Coastal)

Calendar Year Ending	Texas Coastal Index	Fitted Trends	
		All Years Linear	Exponential
(1)	(2)	(3)	(4)
3/31/2003			
6/30/2003			
9/30/2003			
12/31/2003			
3/31/2004			
6/30/2004			
9/30/2004			
12/31/2004	1930.37	1992.34	1998.12
3/31/2005	1959.70	2003.05	2007.87
6/30/2005	1988.13	2013.75	2017.66
9/30/2005	2013.31	2024.45	2027.51
12/31/2005	2031.76	2035.15	2037.40
3/31/2006	2050.67	2045.85	2047.34
6/30/2006	2068.99	2056.56	2057.33
9/30/2006	2089.34	2067.26	2067.36
12/31/2006	2114.71	2077.96	2077.45
3/31/2007	2145.16	2088.66	2087.59
6/30/2007	2180.12	2099.37	2097.77
9/30/2007	2204.40	2110.07	2108.00
12/31/2007	2204.50	2120.77	2118.29
3/31/2008	2186.90	2131.47	2128.62
6/30/2008	2162.64	2142.17	2139.01
9/30/2008	2138.17	2152.88	2149.44
12/31/2008	2121.49	2163.58	2159.93
3/31/2009	2115.33	2174.28	2170.47
6/30/2009	2110.97	2184.98	2181.06
9/30/2009	2120.97	2195.69	2191.70
12/31/2009	2150.95	2206.39	2202.39
3/31/2010	2182.53	2217.09	2213.14
6/30/2010	2211.72	2227.79	2223.94
9/30/2010	2230.07	2238.50	2234.79
12/31/2010	2238.86	2249.20	2245.69
3/31/2011	2250.86	2259.90	2256.64
6/30/2011	2267.98	2270.60	2267.65
9/30/2011	2286.52	2281.30	2278.72
12/31/2011	2303.51	2292.01	2289.84
3/31/2012	2316.23	2302.71	2301.01
6/30/2012	2319.46	2313.41	2312.23
9/30/2012	2322.45	2324.11	2323.51
12/31/2012	2329.89	2334.82	2334.85
3/31/2013	2338.84	2345.52	2346.24
6/30/2013	2351.56	2356.22	2357.69
9/30/2013	2366.76	2366.92	2369.19
12/31/2013	2380.70	2377.62	2380.75
3/31/2014	2395.70	2388.33	2392.37
6/30/2014	2412.94	2399.03	2404.04
9/30/2014	2427.61	2409.73	2415.77
12/31/2014	2439.15	2420.43	2427.55
Annual Trend		1.8%	2.0%
R-Squared		0.916	0.911

Notes:

- (2) = Average Index for Corpus Christi and Houston
- (3) - (4) = (2) fitted to linear and exponential distributions

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Loss Trend Analysis
Modified Consumer Price Index - External Trend

Calendar Year Ending	Modified CPI	Fitted Trends			5 Years		4 Years		3 Years	
		All Years Linear	Exponential	Linear	Exponential	Linear	Exponential	Linear	Exponential	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
9/30/2004	167.76	170.70	170.79							
12/31/2004	168.68	171.12	171.19							
3/31/2005	170.03	171.54	171.59							
6/30/2005	170.63	171.96	171.99							
9/30/2005	170.66	172.37	172.40							
12/31/2005	171.45	172.79	172.80							
3/31/2006	171.94	173.21	173.21							
6/30/2006	172.99	173.63	173.62							
9/30/2006	174.54	174.05	174.03							
12/31/2006	175.48	174.47	174.44							
3/31/2007	176.25	174.89	174.85							
6/30/2007	177.33	175.31	175.26							
9/30/2007	178.34	175.73	175.67							
12/31/2007	179.24	176.15	176.08							
3/31/2008	180.31	176.57	176.50							
6/30/2008	180.58	176.99	176.91							
9/30/2008	181.04	177.41	177.33							
12/31/2008	181.06	177.83	177.75							
3/31/2009	180.55	178.25	178.17							
6/30/2009	180.07	178.67	178.58							
9/30/2009	179.30	179.09	179.01							
12/31/2009	178.80	179.51	179.43							
3/31/2010	178.46	179.93	179.85	177.70	177.75					
6/30/2010	178.56	180.35	180.27	178.28	178.31					
9/30/2010	178.59	180.77	180.70	178.85	178.87					
12/31/2010	178.72	181.19	181.12	179.43	179.43					
3/31/2011	178.97	181.61	181.55	180.01	180.00	179.93	179.95			
6/30/2011	179.61	182.03	181.97	180.58	180.57	180.52	180.53			
9/30/2011	180.52	182.44	182.40	181.16	181.14	181.10	181.10			
12/31/2011	181.55	182.86	182.83	181.73	181.71	181.69	181.68			
3/31/2012	182.78	183.28	183.26	182.31	182.28	182.27	182.26	183.34	183.35	
6/30/2012	183.87	183.70	183.69	182.89	182.85	182.86	182.84	183.77	183.78	
9/30/2012	184.57	184.12	184.13	183.46	183.43	183.44	183.42	184.20	184.20	
12/31/2012	185.03	184.54	184.56	184.04	184.01	184.03	184.01	184.63	184.63	
3/31/2013	185.38	184.96	184.99	184.61	184.59	184.61	184.59	185.06	185.06	
6/30/2013	185.51	185.38	185.43	185.19	185.17	185.20	185.18	185.49	185.49	
9/30/2013	185.82	185.80	185.86	185.77	185.76	185.78	185.77	185.92	185.92	
12/31/2013	186.03	186.22	186.30	186.34	186.34	186.37	186.37	186.35	186.35	
3/31/2014	186.43	186.64	186.74	186.92	186.93	186.96	186.96	186.78	186.78	
6/30/2014	186.87	187.06	187.18	187.49	187.52	187.54	187.56	187.21	187.21	
9/30/2014	187.59	187.48	187.62	188.07	188.11	188.13	188.15	187.64	187.65	
12/31/2014	188.62	187.90	188.06	188.65	188.70	188.71	188.75	188.08	188.08	
Annual Trend		0.9%	0.9%	1.2%	1.3%	1.2%	1.3%	0.9%	0.9%	
R-Squared		0.884	0.880	0.962	0.961	0.940	0.937	0.951	0.950	

Notes:

- (2) = Weighted average of CPI for Lodging, Apparel, Furnishings, and Medical Care
- (3) - (10) = (2) fitted to linear and exponential distributions

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review

Development of LAE factor Using TWIA Commercial + Residential Experience

Accident Year	Projected Ultimate Loss	Projected Ultimate LAE	Ultimate LAE to Loss Ratio	Hurricane Indicator
(1)	(2)	(3)	(4)	(5)
1978		129	132	1.023
1979		1,423	147	0.103
1980		12,911	488	0.038 H
1981		2,512	1,318	0.525
1982		796	543	0.682
1983		148,999	565	0.004 H
1984		999	9,127	9.136
1985		512	324	0.633
1986		881	395	0.448 H
1987		1,897	674	0.355
1988		1,160	774	0.667
1989		12,296	1,036	0.084 H
1990		335	2,833	8.457
1991		1,217	445	0.366
1992		489	687	1.405
1993		3,375	839	0.249
1994		679	1,121	1.651
1995		2,977	397	0.133
1996		1,166	925	0.793
1997		2,964	806	0.272
1998		22,401	1,704	0.076
1999		8,773	4,551	0.519 H
2000		6,227	2,433	0.391
2001		24,605	1,882	0.076
2002		5,167	2,790	0.540
2003		155,001	5,526	0.036 H
2004		5,167	1,471	0.285
2005		154,981	20,231	0.131 H
2006		4,276	1,110	0.260
2007		15,745	4,948	0.314 H
2008		2,604,797	335,696	0.129 H
2009		10,383	2,244	0.216
2010		18,177	4,341	0.239
2011		97,796	15,154	0.155
2012		68,633	15,774	0.230
2013		77,911	14,600	0.187
2014		7,433	4,133	0.556
All Years Total	3,485,190	462,164	0.133	
Hurricane Years Total	3,114,384	373,436	0.120	
Non-Hurricane Years				
Total	370,806	88,728	0.239	
10 Year	319,548	63,499	0.199	

Notes:

- (2) Exhibit 4, Sheet 2
- (3) Exhibit 4, Sheet 4
- (4) = (3) / (2)
- (5) "H" indicates hurricane year

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Ultimate Loss (TWIA All Lines)

Accident Year	Incurred Loss at 12/31/14	Development Factor	Indicated Ultimate Loss
(1)	(2)	(3)	(4)
1977			72
1978			129
1979			1,423
1980			12,911
1981			2,512
1982			796
1983			148,999
1984			999
1985			512
1986			881
1987			1,897
1988			1,160
1989			12,296
1990			335
1991			1,217
1992			489
1993			3,375
1994			679
1995			2,977
1996			1,166
1997			2,964
1998			22,401
1999			8,773
2000			6,227
2001			24,605
2002			5,167
2003			155,001
2004			5,167
2005			154,981
2006			4,276
2007			15,745
2008	2,604,797	1.000	2,604,797
2009	10,404	0.998	10,383
2010	18,361	0.990	18,177
2011	96,828	1.010	97,796
2012	67,287	1.020	68,633
2013	75,204	1.036	77,911
2014	6,739	1.103	7,433

Notes:

- (2) Exhibit 4, Sheet 3
- (3) Exhibit 4, Sheet 3
- (4) 2003 - 2010: (2) * (3); 1978 - 2002: from prior TWIA annual statements

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
 Incurred Loss Development Factors
 TWIA Schedule P Incurred Loss (Including IBNR)

Accident Year	Months of Development							
	12	24	36	48	60	72	84	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
2005	164,811	157,442	152,243	153,502	154,576	154,793	154,981	
2006	4,471	4,616	4,507	4,279	4,365	4,284	4,276	
2007	16,446	15,813	15,537	15,834	15,867	15,750	15,745	
2008	1,902,481	1,774,393	2,273,398	2,384,020	2,680,497	2,632,000	2,604,797	
2009	8,267	10,825	10,581	10,732	10,453	10,404		
2010	15,215	18,166	18,173	18,522	18,361			
2011	94,870	96,967	97,503	96,828				
2012	62,722	69,764	67,287					
2013	77,204	75,204						
2014	6,739							

Accident Year	Development Factors						
	12 - 24	24 - 36	36 - 48	48 - 60	60 - 72	72 - 84	84 - Ult
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2005	0.955	0.967	1.008	1.007	1.001	1.001	
2006	1.032	0.976	0.949	1.020	0.981	0.998	
2007	0.962	0.983	1.019	1.002	0.993	1.000	
2008	0.933	1.281	1.049	1.124	0.982	0.990	
2009	1.309	0.977	1.014	0.974	0.995		
2010	1.194	1.000	1.019	0.991			
2011	1.022	1.006	0.993				
2012	1.112	0.964					
2013	0.974						

Average	1.055	1.019	1.007	1.020	0.991	0.997	
Avg x hi / lo	1.036	0.985	1.011	1.005	0.990	0.999	
Avg 3 Year	1.036	0.990	1.009	1.030	0.990	0.996	
Avg 5 Year	1.122	1.046	1.019	1.022	0.991	0.997	
Prior	1.074	1.039	1.005	1.023	0.997	1.000	1.000
Selected	1.065	1.016	1.010	1.020	0.992	0.998	1.000
Cumulative	1.103	1.036	1.020	1.010	0.990	0.998	1.000

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Ultimate LAE (TWIA All Lines)

Accident Year	Incurred ALAE at 12/31/14	Development Factor	Indicated Ultimate ALAE	Incurred ULAE	Incurred LAE
(1)	(2)	(3)	(4)	(5)	(6)
1978					132
1979					147
1980					488
1981					1,318
1982					543
1983					565
1984					9,127
1985					324
1986			160	235	395
1987			270	404	674
1988			652	122	774
1989			235	801	1,036
1990			2,727	106	2,833
1991			119	326	445
1992			403	284	687
1993			270	569	839
1994			806	315	1,121
1995			192	205	397
1996			698	227	925
1997			355	451	806
1998			892	812	1,704
1999			3,920	631	4,551
2000			1,757	676	2,433
2001			1,209	673	1,882
2002			1,207	1,583	2,790
2003			3,643	1,883	5,526
2004	844	1.000	844	627	1,471
2005	15,229	1.000	15,229	5,002	20,231
2006	860	1.000	860	250	1,110
2007	2,489	1.000	2,489	2,459	4,948
2008	95,040	1.000	95,040	240,656	335,696
2009	226	1.004	227	2,017	2,244
2010	335	0.965	323	4,018	4,341
2011	682	0.976	666	14,488	15,154
2012	719	0.976	702	15,072	15,774
2013	806	1.005	810	13,790	14,600
2014	516	1.156	596	3,537	4,133

Notes:

- (2) Exhibit 4, Sheet 5
- (3) Exhibit 4, Sheet 5
- (4) 2004 - 2014: (2) * (3); 1985 - 2003: from TWIA's annual statements
- (5) From TWIA's annual statements
- (6) 1986 - 2014: (4) + (5); prior years from prior TWIA annual statements

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Incurred ALAE Development Factors
TWIA Schedule P Incurred ALAE (Including IBNR)

Accident Year	<u>Months of Development</u>							
	12 (1)	24 (2)	36 (3)	48 (4)	60 (5)	72 (6)	84 (7)	84 (8)
2004		814	837	839	844	847	845	844
2005		12,902	16,742	18,549	16,151	15,253	15,243	15,229
2006		704	891	899	879	867	860	860
2007		2,660	3,107	2,921	2,519	2,497	2,490	2,489
2008		167,316	139,787	106,761	111,632	120,296	92,426	95,040
2009		7,335	359	226	231	223	226	
2010		391	312	322	316	335		
2011		515	592	609	682			
2012		516	679	719				
2013		802	806					
2014		516						

Accident Year	<u>Development Factors</u>						
	12 - 24 (1)	24 - 36 (2)	36 - 48 (3)	48 - 60 (4)	60 - 72 (5)	72 - 84 (6)	84 - Ult (7)
2004		1.028	1.002	1.006	1.004	0.998	0.999
2005		1.298	1.108	0.871	0.944	0.999	0.999
2006		1.266	1.009	0.978	0.986	0.992	1.000
2007		1.168	0.940	0.862	0.991	0.997	1.000
2008		0.835	0.764	1.046	1.078	0.768	1.028
2009		0.049	0.630	1.022	0.965	1.013	
2010		0.798	1.032	0.981	1.060		
2011		1.150	1.029	1.120			
2012		1.316	1.059				
2013		1.005					

Average		0.99	0.95	0.99	1.00	0.96	1.01	
Avg x hi / lo		1.07	0.98	0.98	1.00	1.00	1.00	
Avg 3 Year		1.16	1.04	1.04	1.03	0.93	1.01	
Avg 5 Year		0.86	0.90	1.01	1.02	0.95	1.01	
Prior		1.15	1.03	0.98	1.00	0.97	1.00	1.00
Selected		1.15	1.03	1.00	1.01	0.96	1.00	1.00
Cumulative		1.16	1.01	0.98	0.98	0.97	1.00	1.00

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
 Summary of Indicated Hurricane Loss & LAE Ratios

Exhibit 5

Basis for Hurricane Loss Ratio	Indicated Loss Ratio	LAE Factor	Indicated Loss & LAE Ratio
(1)	(2)	(3)	(4)
Industry Experience	39.9%	0.120	44.7%
Hurricane Models			
AIR Model	41.5%	0.120	46.5%
RMS Model	44.8%	0.120	50.2%
Average of Models	43.2%	0.120	48.4%

Notes:

- (2) Exhibit 6 - Exhibit 8, Sheet 1
- (3) Exhibit 4, Sheet 1
- (4) = (2) * [1 + (3)]

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Industry Experience -- Commercial Extended Coverage
1970 - 2014 -- Hurricane Years Only

Accident Year	Earned Premium at Current TWIA Rate Level	Incurred Loss Ratio
(1)	(2)	(3)
1970	52,930,917	43.6%
1971	57,179,413	97.8%
1980	63,530,687	60.5%
1983	37,846,069	325.1%
1986	46,851,928	10.2%
1989	75,388,279	6.1%
1990	68,538,791	84.3%
1999	149,356,747	10.0%
2003	203,382,311	28.5%
2005	290,319,029	209.9%
2007	406,958,048	3.5%
2008	381,836,963	464.9%
<hr/>		
(4)	Simple Average Loss Ratio for Hurricane Years	112.0%
(5)	Selected Non-Hurricane Loss Ratio	8.0%
(6)	Average Hurricane Loss Ratio for Hurricane Years	104.0%
(7)	Historical Hurricane Frequency	
	(a) 45.3-Year (10/1/1969 - 12/31/2014)	0.287 (1 Hurricane Every 3.5 years)
	(b) 164-Year (1/1/1851 - 12/31/2014)	0.384 (1 Hurricane Every 2.6 years)
	Selected Frequency	0.384 (1 Hurricane Every 2.6 years)
(8)	Indicated Hurricane Loss Ratio	39.9%

Notes:

- (2) Exhibit 6, Sheet 2. 1999 year ending 12/31/99; all other accident years ending 9/30/xx
- (3) Exhibit 6, Sheet 2. 1999 year ending 12/31/99; all other accident years ending 9/30/xx
- (4) = Average of (3)
- (5) Exhibit 6, Sheet 2
- (6) = (4) - (5)
- (7) Exhibit 9
- (8) = (6) * (7) Selected

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Industry Experience -- Commercial Extended Coverage
1970 - 2014

Accident Year	Earned Premium	Earned Premium at 1992 CMR	Earned Premium at Current Rates	Incurred Losses	Incurred Loss Ratio	Hurricane Indicator
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1970	10,874,210	18,835,352	52,930,917	23,092,142	43.6%	H
1971	13,340,143	20,347,170	57,179,413	55,893,676	97.8%	H
1972	18,906,678	24,314,307	68,327,821	8,704,522	12.7%	
1973	21,737,541	23,257,532	65,358,083	3,837,493	5.9%	
1974	22,348,193	22,844,661	64,197,837	2,193,087	3.4%	
1975	24,396,629	24,958,305	70,137,578	3,943,412	5.6%	
1976	26,795,934	24,109,943	67,753,520	2,218,115	3.3%	
1977	30,910,821	27,119,226	76,210,177	1,898,346	2.5%	
1978	32,709,599	26,415,338	74,232,118	2,535,872	3.4%	
1979	31,306,685	24,514,306	68,889,857	4,535,147	6.6%	
1980	28,751,765	22,607,257	63,530,687	38,431,071	60.5%	H
1981	24,129,384	21,398,588	60,134,097	4,272,728	7.1%	
1982	18,505,004	17,523,231	49,438,112		3.4%	
1983	12,680,397	13,262,706	37,846,069		325.1%	H
1984	12,736,031	14,992,627	37,701,908		11.0%	
1985	15,169,575	16,422,895	49,395,396		4.0%	
1986	21,130,682	17,090,896	46,851,928		10.2%	H
1987	31,114,529	26,771,157	70,613,021		2.1%	
1988	25,065,531	24,117,319	67,634,961		9.4%	
1989	24,167,085	27,085,314	75,388,279		6.1%	H
1990	19,677,404	23,041,233	68,538,791		84.3%	H
1991	21,794,680	25,534,881	71,959,856		68.6%	
1992	23,737,753	26,950,473	77,148,339		1.6%	
1993	21,990,182		60,916,697		6.0%	
1994	16,604,950		46,659,910		12.0%	
1995	32,374,229		90,971,584		25.9%	
1996	55,367,089		155,581,520		2.9%	
1997	53,196,024		149,480,827		4.3%	
1998	53,986,058		152,649,945		16.2%	
1999	52,435,243		149,356,747		10.0%	H
2000	41,739,697		116,632,813		9.5%	
2001	42,330,042		115,514,001		6.4%	
2002	69,156,402		184,824,194		13.8%	
2003	78,368,305		203,382,311		28.5%	H
2004	112,957,791		284,252,186		2.2%	
2005	119,598,806		290,319,029		209.9%	H
2006	148,019,940		343,934,667		2.2%	
2007	186,853,098		406,958,048		3.5%	H
2008	180,008,011		381,836,963		464.9%	H
2009	193,672,354		398,412,789		2.4%	
2010	201,245,742		409,062,408		5.5%	
2011	199,106,765		404,126,784		13.5%	
2012	230,408,157		468,765,698		14.9%	
2013	254,871,359		518,468,996		5.8%	
2014	264,464,447		540,969,091		1.1%	
Total / Average	3,120,740,944		7,314,475,973		36.4%	
Average of Non-Hurricane Years					8.9%	
Average of Non-Hurricane Years Excluding 1991 Selected					7.1%	
Selected					8.0%	

Notes: (2) Provided by TDI. 1971 - 1995 are year ending 9/30/xx as of 12/31/99; 1996 - 2013 are year ending 12/31/xx as of 12/31/14
(3) Provided by TDI (1992 MR = 1992 manual rates)
(4) 1982 - 2014: Sum of Exhibit 6, Sheet 4 - Sheet 7, (5); 1971 - 1981: (3) * 2.810
(5) Provided by TDI. 1982 - 1995 are year ending 9/30/xx as of 12/31/99; 1996 - 2014 are year ending 12/31/xx as of 12/31/14
(6) 1982 - 2014: Exhibit 6, Sheet 3; 1971 - 1981: (5) / (4)
(7) "H" indicates occurrence of hurricane(s) during the time period

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Industry Experience -- Commercial Extended Coverage

Accident Year	<u>Loss Ratios by Territory / Tier</u>					Weighted Loss Ratio
	Territory 8 (1)	Territory 9 (2)	Territory 10 (3)	Tier 2 (4)	Tier 2 (5)	
1982		2.1%	3.7%	4.1%	5.6%	3.4%
1983		968.8%	2.6%	48.7%	162.3%	325.1%
1984		8.3%	3.3%	15.1%	15.5%	11.0%
1985		4.0%	5.8%	3.2%	8.7%	4.0%
1986		3.2%	1.5%	17.3%	13.7%	10.2%
1987		0.5%	2.0%	3.1%	3.3%	2.1%
1988		12.7%	3.1%	9.6%	5.2%	9.4%
1989		14.7%	2.0%	2.2%	6.0%	6.1%
1990		259.7%	2.6%	7.6%	7.5%	84.3%
1991		23.5%	20.4%	113.5%	5.1%	68.6%
1992		0.8%	1.1%	2.1%	4.2%	1.6%
1993		14.9%	1.9%	2.1%	6.2%	6.0%
1994		0.4%	4.1%	21.7%	8.7%	12.0%
1995		8.5%	11.4%	41.4%	22.7%	25.9%
1996		1.6%	3.2%	3.4%	7.3%	2.9%
1997		5.8%	2.2%	4.0%	10.0%	4.3%
1998		22.8%	15.2%	12.7%	10.1%	16.2%
1999		3.0%	13.9%	13.0%	10.2%	10.0%
2000		2.3%	2.2%	15.2%	64.0%	9.5%
2001		7.7%	3.4%	6.1%	29.4%	6.4%
2002		12.9%	33.8%	7.6%	9.4%	13.8%
2003		2.6%	8.9%	50.8%	28.3%	28.5%
2004		3.2%	0.7%	2.0%	2.6%	2.2%
2005		73.4%	1.7%	366.2%	38.3%	209.9%
2006		2.5%	1.0%	2.4%	4.0%	2.2%
2007		1.8%	1.1%	5.3%	6.2%	3.5%
2008		771.9%	35.1%	428.4%	290.6%	464.9%
2009		2.8%	4.3%	1.4%	5.5%	2.4%
2010		1.7%	4.1%	8.3%	1.7%	5.5%
2011		4.3%	27.2%	14.6%	8.8%	13.5%
2012		16.6%	20.8%	12.0%	4.5%	14.9%
2013		15.2%	3.6%	0.9%	3.2%	5.8%
2014		0.6%	2.9%	0.8%	1.4%	1.1%
Average		68.9%	7.6%	37.8%	24.6%	42.0%

TWIA 2014 Written Premium by Territory / Tier

	Territory 8	Territory 9	Territory 10	Tier 2	Total
(7) Amount	118,581,370	66,342,927	196,352,591	4,095,668	385,372,556
(8) % Share	30.77%	17.22%	50.95%	1.06%	100.00%

Notes:

- (2) Exhibit 6, Sheet 4
- (3) Exhibit 6, Sheet 5
- (4) Exhibit 6, Sheet 6
- (5) Exhibit 6, Sheet 7
- (6) = Weighted average of (2) to (5), using (8)
- (7) Provided by TWIA
- (8) = (7) / (7) Total

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Industry Experience -- Commercial Extended Coverage
Tier 1 -- Territory 8 (Galveston County)

Accident Year	Earned Premium	Earned Premium at 1992 MR	TWIA Factor to Current Rate Level	Earned Premium at Current Rates	Incurred Loss	Incurred Loss Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1982	1,604,454	1,510,804	2.810	4,245,359	88,884	2.1%
1983	913,865	968,224	2.810	2,720,709	26,357,425	968.8%
1984	1,195,339	1,366,667	2.810	3,840,334	318,455	8.3%
1985	2,581,481	2,777,593	2.810	7,805,036	314,878	4.0%
1986	3,013,362	2,349,181	2.810	6,601,199	211,282	3.2%
1987	3,004,153	2,585,122	2.810	7,264,193	37,480	0.5%
1988	2,905,355	2,728,206	2.810	7,666,259	969,836	12.7%
1989	2,825,114	3,015,974	2.810	8,474,887	1,244,199	14.7%
1990	2,303,321	2,474,141	2.810	6,952,336	18,053,460	259.7%
1991	2,203,500	2,080,579	2.810	5,846,427	1,371,244	23.5%
1992	2,352,391	2,012,473	2.810	5,655,049	46,331	0.8%
1993	2,406,016		2.810	6,760,905	1,005,945	14.9%
1994	2,807,090		2.810	7,887,923	28,034	0.4%
1995	2,645,757		2.810	7,434,577	635,625	8.5%
1996	5,519,716		2.810	15,510,402	249,644	1.6%
1997	5,461,636		2.810	15,347,197	886,485	5.8%
1998	6,133,105		2.853	17,497,749	3,994,564	22.8%
1999	6,706,028		2.897	19,427,363	575,316	3.0%
2000	4,997,201		2.772	13,852,241	320,131	2.3%
2001	4,785,262		2.606	12,470,393	962,576	7.7%
2002	8,206,069		2.493	20,457,730	2,632,325	12.9%
2003	8,793,047		2.318	20,382,283	529,845	2.6%
2004	12,425,339		2.107	26,180,189	830,387	3.2%
2005	13,839,253		1.916	26,516,009	19,469,845	73.4%
2006	18,438,026		1.776	32,745,934	812,370	2.5%
2007	24,945,613		1.609	40,137,491	713,074	1.8%
2008	25,006,073		1.521	38,034,237	293,597,131	771.9%
2009	29,453,553		1.385	40,793,171	1,143,669	2.8%
2010	31,808,339		1.276	40,587,441	669,882	1.7%
2011	31,643,330		1.245	39,395,946	1,675,264	4.3%
2012	36,313,568		1.186	43,067,892	7,161,746	16.6%
2013	39,538,950		1.129	44,639,475	6,768,497	15.2%
2014	39,867,321		1.076	42,897,237	250,768	0.6%
Total	309,544,256			639,095,573	383,233,161	60.0%

Notes:

- (2) Provided by TDI. 1982 - 1995 are year ending 9/30/xx as of 12/31/99; 1996 - 2014 are year ending 12/31/xx as of 12/31/14
- (3) Provided by TDI (1992 MR = 1992 manual rates)
- (4) Represents 1/1/98 through 1/1/15 rate changes for TWIA; factors assume uniform earning of written premium and that TWIA premium represents 100.0% of industry data in Tier 1 -- Territory 8
- (5) = (3) * (4) for 1982 - 1993; (2) * (4) for 1994 - 2014
- (6) Provided by TDI. 1982 - 1995 are year ending 9/30/xx as of 12/31/99; 1996 - 2014 are year ending 12/31/xx as of 12/31/14
- (7) = (6) / (5)

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Industry Experience -- Commercial Extended Coverage
Tier 1 -- Territory 9 (Nueces County)

Accident Year	Earned Premium	Earned Premium at 1992 MR	TWIA Factor to Current Rate Level	Earned Premium at Current Rates	Incurred Loss	Incurred Loss Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1982	1,347,308	1,286,028	2.810	3,613,739	132,668	3.7%
1983	745,985	1,333,262	2.810	3,746,466	96,051	2.6%
1984	558,639	820,826	2.810	2,306,521	76,481	3.3%
1985	1,235,059	652,809	2.810	1,834,393	106,148	5.8%
1986	2,228,911	1,383,103	2.810	3,886,519	56,387	1.5%
1987	2,381,538	1,849,840	2.810	5,198,050	105,275	2.0%
1988	1,796,653	2,086,940	2.810	5,864,301	181,414	3.1%
1989	1,632,453	1,719,227	2.810	4,831,028	98,116	2.0%
1990	1,429,526	1,826,430	2.810	5,132,268	135,678	2.6%
1991	1,390,109	1,769,972	2.810	4,973,621	1,013,636	20.4%
1992	1,571,433	1,555,310	2.810	4,370,421	49,512	1.1%
1993	1,587,772	1,629,721	2.810	4,579,516	86,000	1.9%
1994	2,203,514		2.810	6,191,874	254,088	4.1%
1995	2,669,951		2.810	7,502,562	854,753	11.4%
1996	5,639,923		2.810	15,848,184	502,177	3.2%
1997	3,183,758		2.810	8,946,360	199,390	2.2%
1998	3,613,310		2.846	10,283,480	1,561,275	15.2%
1999	6,808,428		2.882	19,621,889	2,735,082	13.9%
2000	5,167,158		2.779	14,359,532	317,804	2.2%
2001	4,763,324		2.640	12,575,175	431,244	3.4%
2002	8,479,915		2.547	21,598,344	7,300,265	33.8%
2003	9,934,549		2.401	23,852,852	2,122,879	8.9%
2004	14,597,450		2.226	32,493,924	212,644	0.7%
2005	16,137,249		2.067	33,355,694	566,758	1.7%
2006	21,281,705		1.951	41,520,606	434,362	1.0%
2007	27,801,192		1.812	50,375,760	571,169	1.1%
2008	28,095,094		1.739	48,857,368	17,167,543	35.1%
2009	30,063,795		1.626	48,883,731	2,093,422	4.3%
2010	28,497,120		1.536	43,771,576	1,800,223	4.1%
2011	26,062,220		1.510	39,353,952	10,707,726	27.2%
2012	27,782,562		1.461	40,590,323	8,455,590	20.8%
2013	29,398,159		1.414	41,568,997	1,484,853	3.6%
2014	29,274,542		1.369	40,076,848	1,159,245	2.9%
Total	291,926,127			651,965,874	60,833,736	9.3%

Notes:

- (2) Provided by TDI. 1982 - 1995 are year ending 9/30/xx as of 12/31/99; 1996 - 2014 are year ending 12/31/xx as of 12/31/14
- (3) Provided by TDI (1992 MR = 1992 manual rates)
- (4) Represents 1/1/98 through 1/1/15 rate changes for TWIA; factors assume uniform earning of written premium and that TWIA premium represents 83.1% of industry data in Tier 1 -- Territory 9
- (5) = (3) * (4) for 1982 - 1993; (2) * (4) for 1994 - 2014
- (6) Provided by TDI. 1982 - 1995 are year ending 9/30/xx as of 12/31/99; 1996 - 2014 are year ending 12/31/xx as of 12/31/14
- (7) = (6) / (5)

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Industry Experience -- Commercial Extended Coverage
Tier 1 -- Territory 10 (Other Tier 1)

Accident Year	Earned Premium	Earned Premium at 1992 MR	TWIA Factor to Current Rate Level	Earned Premium at Current Rates	Incurred Loss	Incurred Loss Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1982	4,012,396	3,950,311	2.810	11,100,374	453,010	4.1%
1983	3,769,988	3,832,674	2.810	10,769,814	5,242,728	48.7%
1984	4,835,650	4,139,464	2.810	11,631,894	1,759,233	15.1%
1985	3,637,366	5,883,059	2.810	16,531,396	534,724	3.2%
1986	4,787,352	3,997,227	2.810	11,232,208	1,943,819	17.3%
1987	5,996,981	3,948,102	2.810	11,094,167	338,938	3.1%
1988	5,872,305	5,352,970	2.810	15,041,846	1,442,599	9.6%
1989	5,125,436	5,768,621	2.810	16,209,825	349,413	2.2%
1990	3,842,130	5,918,163	2.810	16,630,038	1,263,817	7.6%
1991	4,253,902	4,624,825	2.810	12,995,758	14,752,702	113.5%
1992	4,034,147	4,765,878	2.810	13,392,117	276,158	2.1%
1993	4,540,606	4,187,015	2.810	11,765,512	245,603	2.1%
1994	5,145,260		2.810	14,458,181	3,130,886	21.7%
1995	9,324,050		2.810	26,200,581	10,852,486	41.4%
1996	15,331,047		2.810	43,080,242	1,478,175	3.4%
1997	17,116,368		2.810	48,096,994	1,911,482	4.0%
1998	17,623,413		2.840	50,050,493	6,340,723	12.7%
1999	15,019,386		2.871	43,120,657	5,614,569	13.0%
2000	11,756,138		2.784	32,729,088	4,969,254	15.2%
2001	11,140,104		2.666	29,699,517	1,824,700	6.1%
2002	20,528,832		2.587	53,108,088	4,053,342	7.6%
2003	23,885,668		2.464	58,854,286	29,908,218	50.8%
2004	31,412,192		2.316	72,750,637	1,462,655	2.0%
2005	34,104,704		2.181	74,382,359	272,418,664	366.2%
2006	46,364,875		2.083	96,578,035	2,319,049	2.4%
2007	72,031,804		1.966	141,614,527	7,543,317	5.3%
2008	66,839,704		1.903	127,195,957	544,866,633	428.4%
2009	67,125,808		1.808	121,363,461	1,683,004	1.4%
2010	65,633,507		1.732	113,677,234	9,475,100	8.3%
2011	64,578,607		1.710	110,429,418	16,125,042	14.6%
2012	71,579,602		1.668	119,394,776	14,356,041	12.0%
2013	77,500,364		1.628	126,170,593	1,179,230	0.9%
2014	72,931,250		1.591	116,033,619	954,197	0.8%
Total	725,793,551			1,777,383,692	961,418,037	54.1%

Notes:

- (2) Provided by TDI. 1982 - 1996 are year ending 9/30/xx as of 12/31/99; 1997 - 2010 are year ending 12/31/xx as of 12/31/14
- (3) Provided by TDI (1992 MR = 1992 manual rates)
- (4) Represents 1/1/98 through 1/1/15 rate changes for TWIA; factors assume uniform earning of written premium and that TWIA premium represents 70.3% of industry data in Tier 1 -- Territory 10
- (5) = (3) * (4) for 1982 - 1993; (2) * (4) for 1994 - 2014
- (6) Provided by TDI. 1982 - 1995 are year ending 9/30/xx as of 12/31/99; 1996 - 2014 are year ending 12/31/xx as of 12/31/14
- (7) = (6) / (5)

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Industry Experience -- Commercial Extended Coverage
Tier 2 (Territories 1 and 11)

AY Ending	Earned Premium	Earned Premium at 1992 MR	TWIA Factor to Current Rate Level	Earned Premium at Current Rates	Incurred Loss	Incurred Loss Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1982	11,540,846	10,846,491	2.810	30,478,640	1,700,638	5.6%
1983	7,250,559	7,334,192	2.810	20,609,080	33,451,768	162.3%
1984	6,146,403	7,090,092	2.810	19,923,159	3,096,573	15.5%
1985	7,715,669	8,264,972	2.810	23,224,571	2,019,280	8.7%
1986	11,101,057	8,943,773	2.810	25,132,002	3,439,343	13.7%
1987	19,731,857	16,746,125	2.810	47,056,611	1,552,595	3.3%
1988	14,491,218	13,901,265	2.810	39,062,555	2,041,063	5.2%
1989	14,584,082	16,324,747	2.810	45,872,539	2,746,147	6.0%
1990	12,102,427	14,172,295	2.810	39,824,149	2,967,816	7.5%
1991	13,947,169	17,133,114	2.810	48,144,050	2,440,246	5.1%
1992	15,779,782	19,121,264	2.810	53,730,752	2,232,412	4.2%
1993	13,455,788		2.810	37,810,764	2,357,383	6.2%
1994	6,449,086		2.810	18,121,932	1,579,205	8.7%
1995	17,734,471		2.810	49,833,864	11,314,057	22.7%
1996	28,876,403		2.810	81,142,692	5,938,855	7.3%
1997	27,434,262		2.810	77,090,276	7,691,121	10.0%
1998	26,616,230		2.811	74,818,223	7,574,576	10.1%
1999	23,901,401		2.811	67,186,838	6,821,707	10.2%
2000	19,819,200		2.810	55,691,952	35,670,537	64.0%
2001	21,641,352		2.808	60,768,916	17,852,673	29.4%
2002	31,941,586		2.807	89,660,032	8,461,924	9.4%
2003	35,755,041		2.805	100,292,890	28,411,179	28.3%
2004	54,522,810		2.803	152,827,436	3,982,223	2.6%
2005	55,697,704		2.802	156,064,967	59,821,556	38.3%
2006	61,817,890		2.800	173,090,092	6,975,659	4.0%
2007	62,461,690		2.799	174,830,270	10,848,562	6.2%
2008	59,953,324		2.798	167,749,401	487,533,211	290.6%
2009	66,990,499		2.797	187,372,426	10,217,816	5.5%
2010	75,474,305		2.796	211,026,157	3,623,901	1.7%
2011	76,904,282		2.795	214,947,468	18,897,681	8.8%
2012	95,067,158		2.795	265,712,707	11,872,905	4.5%
2013	109,552,588		2.794	306,089,931	9,896,320	3.2%
2014	122,391,334		2.794	341,961,387	4,753,490	1.4%
Total	984,565,659			3,457,148,729	806,420,956	23.3%

Notes:

- (2) Provided by TDI. 1982 - 1995 are year ending 9/30/xx as of 12/31/99; 1996 - 2014 are year ending 12/31/xx as of 12/31/14
- (3) Provided by TDI (1992 MR = 1992 manual rates)
- (4) Represents 1/1/98 through 1/1/15 rate changes for TWIA; factors assume uniform earning of written premium and that TWIA premium represents 1.0% of industry data in Tier 2
- (5) = (3) * (4) for 1982 - 1993; (2) * (4) for 1994 - 2014
- (6) Provided by TDI. 1982 - 1995 are year ending 9/30/xx as of 12/31/99; 1996 - 2014 are year ending 12/31/xx as of 12/31/14
- (7) = (6) / (5)

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Hurricane Loss Ratio -- AIR Model

County	TWIA Insured Values (000s) as of 12/31/14	Modeled Loss Cost	Expected Annual Hurricane Loss
(1)	(2)	(3)	(4)
Aransas	358,923	4.801	1,723,189
Brazoria	1,254,400	2.373	2,976,691
Calhoun	175,382	3.027	530,881
Cameron	1,722,065	2.822	4,859,667
Chambers	100,792	1.954	196,948
Galveston	3,423,193	6.961	23,828,846
Harris	125,354	3.869	484,995
Jefferson	1,073,187	2.176	2,335,255
Kenedy	1,451	1.408	2,043
Kleberg	84,344	0.693	58,450
Matagorda	164,843	2.357	388,535
Nueces	2,961,185	3.479	10,301,963
Refugio	24,456	1.271	31,084
San Patricio	332,344	2.524	838,836
Willacy	36,877	1.704	62,838
Total	11,838,796	4.107	48,620,221
(5) 2014 Earned Premium at Present Rates			117,294,612
(6) Indicated Hurricane Loss Ratio			41.5%

Notes:

- (2) Provided by TWIA
- (3) Exhibit 7, Sheet 2
- (4) = (2) * (3)
- (5) Exhibit 10, Sheet 1
- (6) = (4) Total / (5)

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
AIR Simulated Hurricane Results

County	TWIA Insured Values (000s) as of 12/15/14	Average Annual Modeled Loss	Provision for Storm Surge	Modeled Loss Cost
(1)	(2)	(3)	(4)	(5)
Aransas	358,923	1,716,371	1.004	4.801
Brazoria	1,254,400	2,964,507	1.004	2.373
Calhoun	175,382	528,749	1.004	3.027
Cameron	1,722,065	4,840,385	1.004	2.822
Chambers	100,792	196,159	1.004	1.954
Galveston	3,423,193	23,735,397	1.004	6.961
Harris	125,354	483,084	1.004	3.869
Jefferson	1,073,187	2,325,949	1.004	2.176
Kenedy	1,451	2,035	1.004	1.408
Kleberg	84,344	58,200	1.004	0.693
Matagorda	164,843	387,008	1.004	2.357
Nueces	2,961,185	10,261,306	1.004	3.479
Refugio	24,456	30,966	1.004	1.271
San Patricio	332,344	835,436	1.004	2.524
Willacy	36,877	62,597	1.004	1.704
Total	11,838,796	48,428,149	1.004	4.107

Notes:

- (2) Provided by TWIA and Geo-coded by AIR
- (3) Provided by AIR
- (4) = 10% of modeled storm surge increase, estimated to be 4.0%
- (5) = (3) / (2) * (4)

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Hurricane Loss Ratio -- RMS Model

County	TWIA Insured Values (000s) as of 12/31/14	Modeled Loss Cost	Expected Annual Hurricane Loss
(1)	(2)	(3)	(4)
Aransas	364,214	3.977	1,448,479
Brazoria	1,249,789	3.446	4,306,773
Calhoun	175,382	4.631	812,194
Cameron	1,722,065	4.199	7,230,951
Chambers	103,407	3.422	353,859
Galveston	3,427,003	6.212	21,288,543
Harris	123,107	4.315	531,207
Jefferson	1,073,619	3.035	3,258,434
Kenedy	1,451	2.506	3,636
Kleberg	84,344	1.979	166,917
Matagorda	164,843	3.572	588,819
Nueces	2,961,360	3.861	11,433,811
Refugio	24,456	2.506	61,287
San Patricio	326,879	2.920	954,487
Willacy	36,877	2.758	101,707
Total	11,838,796	4.438	52,541,104
(5) 2014 Earned Premium at Present Rates			117,294,612
(6) Indicated Hurricane Loss Ratio			44.8%

Notes:

- (2) Provided by TWIA
- (3) Exhibit 8, Sheet 2
- (4) = (2) * (3)
- (5) Exhibit 10, Sheet 1
- (6) = (4) Total / (5)

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
RMS Simulated Hurricane Results

County	TWIA Insured Values (000s) as of 12/15/14	Average Annual Modeled Loss	Provision for Storm Surge	Modeled Loss Cost
(1)	(2)	(3)	(4)	(5)
Aransas	364,214	1,422,913	1.018	3.977
Brazoria	1,249,789	4,230,058	1.018	3.446
Calhoun	175,382	797,830	1.018	4.631
Cameron	1,722,065	7,103,024	1.018	4.199
Chambers	103,407	347,639	1.018	3.422
Galveston	3,427,003	20,913,076	1.018	6.212
Harris	123,107	521,839	1.018	4.315
Jefferson	1,073,619	3,200,376	1.018	3.035
Kenedy	1,451	3,572	1.018	2.506
Kleberg	84,344	163,994	1.018	1.979
Matagorda	164,843	578,444	1.018	3.572
Nueces	2,961,360	11,230,421	1.018	3.861
Refugio	24,456	60,199	1.018	2.506
San Patricio	326,879	937,461	1.018	2.920
Willacy	36,877	99,907	1.018	2.758
Total	11,838,796	51,610,753	1.018	4.438

Notes:

- (2) Provided by TWIA and Geo-coded by RMS
- (3) Provided by RMS
- (4) = 10% of modeled storm surge increase, estimated to be 18.0%
- (5) = (3) / (2) * (4)

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Texas Hurricanes 1850 - 2014

<u>Landfall</u>			<u>Landfall</u>		
Year	Month	Name	Year	Month	Name
(1)	(2)		(1)	(2)	
1851	Jun		1929	Jun	
1854	Jun		1932	Aug	"Freeport"
1854	Sep	"Matagorda"	1933	Aug	
1865	Sep	"Sabine River-Lake Calcasieu"	1933	Sep	
1866	Jul		1934	Jul	
1867	Oct	"Galveston"	1936	Jun	
1869	Aug	"Lower Texas Coast"	1940	Aug	
1875	Sep		1941	Sep	
1879	Aug		1942	Aug	
1880	Aug		1942	Aug	
1882	Sep		1943	Jul	
1886	Jun		1945	Aug	
1886	Aug	"Indianola"	1947	Aug	
1886	Sep		1949	Oct	
1886	Oct		1957	Jun	Audrey
1887	Sep		1959	Jul	Debra
1888	Jun		1961	Sep	Carla
1891	Jul		1963	Sep	Cindy
1895	Aug		1967	Sep	Beulah
1897	Sep		1970	Aug	Celia
1900	Sep	"Galveston"	1971	Sep	Fern
1909	Jun		1980	Aug	Allen
1909	Jul	"Velasco"	1983	Aug	Alicia
1909	Aug		1986	Jun	Bonnie
1910	Sep		1989	Aug	Chantal
1912	Oct		1989	Oct	Jerry
1913	Jun		1999	Aug	Bret
1915	Aug	"Galveston"	2003	Jul	Claudette
1916	Aug		2005	Sep	Rita
1919	Sep		2007	Sep	Humberto
1921	Jun		2008	Jul	Dolly
			2008	Sep	Ike

Frequency	Date Period	Hurricanes	Period	Annual Frequency
45.3-Year	10/1/1969 - 12/31/2014	13	45.3	0.287
164-Year	1/1/1851 - 12/31/2014	63	164	0.384

Notes:

(1), (2) from NOAA Technical Memorandum NWS TPC-5, updated with actual experience through 2014

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Calculation of Earned Premium at Present Rate Level

Year	TWIA Written Premium	Factor to Current Rate Level	Written Premium at Current Rate Level	Earned Premium at Current Rate Level
(1)	(2)	(3)	(4)	(5)
1992	7,048,820	2.810	19,807,184	19,807,184
1993	9,185,541	2.810	25,811,370	22,809,277
1994	10,672,677	2.810	29,990,222	27,900,796
1995	12,865,905	2.810	36,153,193	33,071,708
1996	15,640,660	2.810	43,950,255	40,051,724
1997	16,536,186	2.810	46,466,683	45,208,469
1998	16,558,977	2.897	47,971,356	47,219,020
1999	17,394,142	2.897	50,390,830	49,181,093
2000	17,332,561	2.658	46,069,947	48,230,389
2001	17,544,251	2.555	44,825,561	45,447,754
2002	24,013,525	2.434	58,448,920	51,637,241
2003	29,220,514	2.213	64,664,997	61,556,959
2004	31,009,323	2.012	62,390,758	63,527,878
2005	35,740,174	1.829	65,368,778	63,879,768
2006	76,847,840	1.697	130,410,784	97,889,781
2007	110,951,718	1.555	172,529,921	151,470,353
2008	98,037,185	1.482	145,291,108	158,910,515
2009	111,269,480	1.291	143,648,899	144,470,004
2010	102,171,553	1.276	130,370,902	137,009,901
2011	100,011,848	1.215	121,514,395	125,942,649
2012	110,524,395	1.158	127,987,249	124,750,822
2013	113,035,972	1.103	124,678,677	126,332,963
2014	104,676,711	1.050	109,910,547	117,294,612
Total	860,052,880		1,848,652,536	1,803,600,860

Notes:

- (2) Provided by TWIA, 1992 reflects adjustment for rate change applied to in-force policies
- (3) Exhibit 10, Sheet 2
- (4) = (2) * (3) (calculated on a monthly basis)
- (5) Calculated from (4), using annual uniform earning assumption for 2000 and prior and monthly for 2001 and after

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
 Calculation of On-Level Premium Factors

Year	Rate Level in Effect			Cumulative Rate Level			# Months			Average Rate Level	Factor to Current Rate Level			
	Applicable Rates		E.O.Y.	B.O.Y.	(6)	(7)	E.O.Y.	B.O.Y.	E.O.Y.					
(1)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1980	Prior			8/1/1980	1.000			1.175	7.0			5.0	1.073	4.206
1981	8/1/1980			9/1/1981	1.175			1.132	8.0			4.0	1.161	3.887
1982	9/1/1981			9/1/1982	1.132			1.428	8.0			4.0	1.231	3.666
1983	9/1/1982			10/10/1983	1.428			1.514	9.3			2.7	1.447	3.119
1984	10/10/1983			10/10/1983	1.514			1.514	12.0			0.0	1.514	2.981
1985	10/10/1983	3/1/1985	3/15/1985	11/15/1985	1.514	1.892	2.428	2.651	2.0	0.5	8.0	1.5	2.281	1.978
1986	11/15/1985			11/15/1985	2.651			2.651	12.0			0.0	2.651	1.702
1987	11/15/1985			7/1/1987	2.651			2.407	6.0			6.0	2.529	1.784
1988	7/1/1987			11/1/1988	2.407			2.075	10.0			2.0	2.352	1.919
1989	11/1/1988			11/1/1988	2.075			2.075	12.0			0.0	2.075	2.175
1990	11/1/1988			3/1/1990	2.075			2.104	2.0			10.0	2.099	2.150
1991	3/1/1990			4/1/1991	2.104			2.083	3.0			9.0	2.088	2.161
1992	1/1/1992			1/1/1992	1.606			1.606	12.0			0.0	1.606	2.810
1993	1/1/1992			10/1/1993	1.606			1.606	9.0			3.0	1.606	2.810
1994	10/1/1993			10/1/1993	1.606			1.606	12.0			0.0	1.606	2.810
1995	10/1/1993			10/1/1993	1.606			1.606	12.0			0.0	1.606	2.810
1996	10/1/1993			10/1/1993	1.606			1.606	12.0			0.0	1.606	2.810
1997	10/1/1993			10/1/1993	1.606			1.606	12.0			0.0	1.606	2.810
1998	1/1/1998			1/1/1998	1.558			1.558	12.0			0.0	1.558	2.897
1999	1/1/1998			1/1/1998	1.558			1.558	12.0			0.0	1.558	2.897
2000	1/1/2000			1/1/2000	1.698			1.698	12.0			0.0	1.698	2.658
2001	1/1/2001			1/1/2001	1.766			1.766	12.0			0.0	1.766	2.555
2002	1/1/2002			1/1/2002	1.854			1.854	12.0			0.0	1.854	2.434
2003	1/1/2003			1/1/2003	2.039			2.039	12.0			0.0	2.039	2.213
2004	1/1/2004			1/1/2004	2.243			2.243	12.0			0.0	2.243	2.012
2005	1/1/2005			1/1/2005	2.468			2.468	12.0			0.0	2.468	1.829
2006	1/1/2006			9/1/2006	2.591			2.798	8.0			4.0	2.660	1.697
2007	1/1/2007			1/1/2007	2.902			2.902	12.0			0.0	2.902	1.555
2008	1/1/2007			2/1/2008	2.902			3.059	1.0			11.0	3.046	1.482
2009	2/1/2008			2/1/2009	3.059			3.536	1.0			11.0	3.496	1.291
2010	2/1/2009			2/1/2009	3.536			3.536	12.0			0.0	3.536	1.276
2011	1/1/2011			1/1/2011	3.713			3.713	12.0			0.0	3.713	1.215
2012	1/1/2012			1/1/2012	3.898			3.898	12.0			0.0	3.898	1.158
2013	1/1/2013			1/1/2013	4.093			4.093	12.0			0.0	4.093	1.103
2014	1/1/2014			1/1/2014	4.298			4.298	12.0			0.0	4.298	1.050
2015	1/1/2015			1/1/2015	4.513			4.513	12.0			0.0	4.513	1.000
Current				1/1/2015				4.513					4.513	1.000

Notes:

- (1) - (4) Rates in effect and beginning and end of year (B.O.Y. and E.O.Y.)
 - For each year except 1985, 2006, and 2008 the B.O.Y. and E.O.Y. rates are the only rates applicable
 - For 1985, there were two additional rate changes
 - For 2006, there was one additional rate change
 - For 2008, the rate change took effect mid-year
- (5) - (8) Based on Exhibit 10, Sheet 3
- (9) - (12) Number of months that each of the rates were effective
- (13) = Weighted average of (5) - (8) using (9) - (12) as weights
- (14) = Current (13) / (13)

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
History of Rate Level Changes

Effective Date	Rate Change	Cumulative Rate Level
(1)	(2)	(3)
Prior		1.000
8/1/80	17.5%	1.175
9/1/81	-3.7%	1.132
9/1/82	26.2%	1.428
10/10/83	6.0%	1.514
3/1/85	25.0%	1.892
3/15/85	28.3%	2.428
11/15/85	9.2%	2.651
7/1/87	-9.2%	2.407
11/1/88	-13.8%	2.075
3/1/90	1.4%	2.104
4/1/91	-1.0%	2.083
1/1/92	-22.9%	1.606
10/1/93	0.0%	1.606
1/1/98	-3.0%	1.558
1/1/00	9.0%	1.698
1/1/01	4.0%	1.766
1/1/02	5.0%	1.854
1/1/03	10.0%	2.039
1/1/04	10.0%	2.243
1/1/05	10.0%	2.468
1/1/06	5.0%	2.591
9/1/06	8.0%	2.798
1/1/07	3.7%	2.902
2/1/08	5.4%	3.059
2/1/09	15.6%	3.536
1/1/11	5.0%	3.713
1/1/12	5.0%	3.898
1/1/13	5.0%	4.093
1/1/14	5.0%	4.298
1/1/15	5.0%	4.513

Notes:

- (2) Provided by TWIA, excludes 1/1/92 refund on in-force policies
- (3) = Cumulation of (2)

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Fixed Expenses and Variable Permissible Loss & LAE Ratios

Expense Category	2012	2013	2014	Selected
(1) Direct Written Premium	\$443,479,701	\$472,739,474	\$494,036,010	
(2) Direct Earned Premium	429,594,000	456,629,705	484,048,868	
(3) Commission				
\$ Amount	70,927,902	75,609,038	79,013,534	
% of DWP	16.0%	16.0%	16.0%	16.0%
(4) Other Acquisition				
\$ Amount	\$0	\$0	\$0	
% of DWP	0.0%	0.0%	0.0%	0.0%
(5) General Expense				
Unadjusted \$ Amount	\$22,245,448	\$24,108,302	\$26,497,842	
Adjustments				
Contribution to Statutory Fund	0	0	0	
Adjusted \$ Amount	22,245,448	24,108,302	26,497,842	
% of DWP	5.0%	5.1%	5.4%	5.2%
(6) Taxes, Licenses & Fees				
\$ Amount	\$8,635,152	\$9,329,687	\$9,640,039	
% of DWP	1.9%	2.0%	2.0%	2.0%
(7) Reinsurance Expense				16.3%
(8) Total Fixed Expenses				21.5%
(9) Total Variable Expenses				18.0%
(10) CRTF Contribution				4.6%
Class 1 Public Security Repayment				15.4%
Total Funding Contribution				20.0%
(11) Variable Permissible Loss & LAE Ratio				62.0%

Notes:

- (1) - (6) From TWIA's Statutory Annual Statements and Insurance Expense Exhibits
- (7) Exhibit 11, Sheet 2
- (8) = (5) + (7)
- (9) = (3) + (4) + (6)
- (10) CRTF contribution selected judgmentally; Class 1 repayment based on projected \$80 million in debt service
- (11) = 100% - (9) - (10)

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Development of Reinsurer Expense
Using Average of AIR and RMS Hurricane Models

(1) 2015 - 2016 Reinsurance Premium	123,353,983
(2a) Average Annual Loss by Reinsurance Layer (AIR) 100% of \$2280M XS \$2600M	36,988,580
Total	36,988,580
(2b) Average Annual Loss by Reinsurance Layer (RMS) 100% of \$2280M XS \$2600M	33,743,834
Total	33,743,834
(2c) Selected Total Average Annual Loss	35,366,207
(3) Annual Exposure Growth	1.5%
(4) Prospective Average Annual Loss	35,896,700
(5) Net Cost of Reinsurance	87,457,283
(6) TWIA 2014 Earned Premium at Present Rates	526,691,643
(7) 2015 - 2016 TWIA Prospective Earned Premium at Present Rates	535,705,310
(8) Indicated Reinsurance Expense %	16.3%

Notes:

- (1) From TWIA reinsurance contract effective 6/1/2015 through 5/31/2016
- (2a) Provided by Guy Carpenter, based on AIR model using TWIA exposures as of 12/15/2014 and adjusted for ALAE
- (2b) Provided by Guy Carpenter, based on RMS model using TWIA exposures as of 12/15/2014 and adjusted for ALAE
- (2c) Selected equal to the average of the modeled average annual losses
- (3) Selected based on projections communicated to reinsurers
- (4) = Sum of (2a) * [(3) ^ 1.000]
- (5) = (1) - (4)
- (6) = Commercial Exhibit 10, Sheet 1 + Residential Exhibit 10, Sheet 2, calendar year ending 12/31/xx
- (7) = (6) adjusted for premium trend * [(3) ^ 1.417] (projected premium growth from 7/1/2014 to 12/1/2015)
- (8) = (5) / (7)

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Reconciliation of Paid Loss Data to Schedule P

Accident Year	TWIA Provided Paid Loss			Schedule P Direct & Assumed Paid Loss	Difference
	Commercial & Farm	Residential	Total		
(1)	(2)	(3)	(4)	(5)	(6)
2005	71,174,473	83,698,540	154,873,013	154,859,000	14,013
2006	1,517,386	2,758,503	4,275,889	4,276,000	(111)
2007	5,610,638	10,190,834	15,801,472	15,745,000	56,472
2008	852,278,421	1,707,179,832	2,559,458,253	2,557,453,000	2,005,253
2009	2,553,456	8,434,275	10,987,731	10,358,000	629,731
2010	7,280,462	10,840,567	18,121,029	18,115,000	6,029
2011	18,758,152	76,458,090	95,216,242	95,107,000	109,242
2012	13,134,975	51,939,644	65,074,619	65,042,000	32,619
2013	7,242,873	63,246,830	70,489,703	70,447,000	42,703
2014	640,841	3,822,278	4,463,119	4,464,000	(881)
Total	980,191,677	2,018,569,393	2,998,761,070	2,995,866,000	2,895,070

Notes:

- (2), (3) Provided by TWIA, as of 12/31/2013
- (4) = (2) + (3)
- (5) Based on TWIA 2014 Annual Statement
- (6) = (4) - (5)

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Reconciliation of Premium Data to Annual Statement

Calendar Year	TWIA Provided Written Premium			Annual Statement Gross	
	Commercial	Residential	Total	Written Premium	Difference
(1)	(2)	(3)	(4)	(5)	(6)
1992	6,107,171	5,357,578	11,464,749	11,495,409	(30,660)
1993	9,185,541	10,130,170	19,315,711	19,376,959	(61,248)
1994	10,672,677	15,758,330	26,431,007	26,510,501	(79,494)
1995	12,865,905	19,259,265	32,125,170	32,419,287	(294,117)
1996	15,640,660	24,504,127	40,144,787	40,358,575	(213,788)
1997	16,536,186	25,783,455	42,319,641	42,462,844	(143,203)
1998	16,558,977	27,833,800	44,392,777	44,410,914	(18,137)
1999	17,394,142	27,168,992	44,563,134	44,581,218	(18,084)
2000	17,332,561	29,762,296	47,094,857	48,012,426	(917,569)
2001	17,544,251	36,220,623	53,764,874	54,630,727	(865,853)
2002	24,013,525	48,856,422	72,869,947	72,967,831	(97,884)
2003	29,220,514	58,573,191	87,793,705	87,987,279	(193,574)
2004	31,009,323	71,292,702	102,302,025	102,384,351	(82,326)
2005	35,740,174	78,094,458	113,834,632	113,927,701	(93,069)
2006	76,847,840	119,658,576	196,506,416	196,833,235	(326,819)
2007	110,951,718	203,561,196	314,512,914	315,139,307	(626,393)
2008	98,037,185	232,921,259	330,958,444	331,057,645	(99,201)
2009	111,269,480	269,535,987	380,805,467	382,342,402	(1,536,935)
2010	102,171,553	278,117,003	380,288,556	385,549,582	(5,261,026)
2011	100,011,848	307,490,101	407,501,949	403,748,164	3,753,785
2012	110,524,395	335,793,285	446,317,679	443,479,701	2,837,978
2013	113,035,972	360,877,590	473,913,562	472,739,474	1,174,088
2014	104,676,711	389,395,862	494,072,573	494,036,010	36,563
Total	1,187,348,309	2,975,946,267	4,163,294,576	4,166,451,542	-3,156,966

Notes:

- (2), (3) Provided by TWIA, as of 12/31/2014
- (4) = (2) + (3)
- (5) Based on TWIA Annual Statements
- (6) = (4) - (5)

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Current and Proposed Rates
Rate Tables A and C

Table	Coinsurance	Rate Table A			Rate Table C		
		Current	Proposed	Change	Current	Proposed	Change
1 Frame (F)	50%	--	--	--	--	--	--
	80%	1.621	1.702	4.997%	1.300	1.365	5.000%
	100%	1.606	1.686	4.981%	1.282	1.346	4.992%
2 Brick (M)	50%	--	--	--	--	--	--
	80%	1.691	1.775	4.967%	1.378	1.446	4.935%
	100%	1.306	1.371	4.977%	1.050	1.102	4.952%
3	50%	--	--	--	--	--	--
	80%	1.378	1.446	4.935%	1.100	1.155	5.000%
	100%	1.166	1.224	4.974%	0.908	0.953	4.956%
(HC)	50%	2.006	2.106	4.985%	--	--	--
	80%	1.242	1.304	4.992%	0.985	1.034	4.975%
	100%	1.186	1.245	4.975%	0.972	1.020	4.938%
4 (WR)	50%	0.801	0.841	4.994%	--	--	--
	80%	0.502	0.527	4.980%	0.394	0.413	4.822%
	100%	0.469	0.492	4.904%	0.387	0.406	4.910%
(SWR)	50%	0.999	1.048	4.905%	--	--	--
	80%	0.612	0.642	4.902%	0.492	0.516	4.878%
	100%	0.592	0.621	4.899%	0.478	0.501	4.812%
5 Brick	50%	--	--	--	--	--	--
	80%	1.158	1.215	4.922%	0.573	0.601	4.887%
	100%	--	--	--	--	--	--
5A Frame	50%	--	--	--	--	--	--
	80%	1.391	1.460	4.960%	0.698	0.732	4.871%
	100%	--	--	--	--	--	--
5B Brick Veneer	50%	--	--	--	--	--	--
	80%	1.158	1.215	4.922%	0.573	0.601	4.887%
	100%	--	--	--	--	--	--
7	50%	--	--	--	--	--	--
	80%	3.942	4.139	4.997%	3.135	3.291	4.976%
	100%	3.389	3.558	4.987%	2.704	2.839	4.993%
8	50%	--	--	--	--	--	--
	80%	4.699	4.933	4.980%	3.763	3.951	4.996%
	100%	3.942	4.139	4.997%	3.153	3.310	4.979%
9	50%	--	--	--	--	--	--
	80%	5.626	5.907	4.995%	4.502	4.727	4.998%
	100%	4.611	4.841	4.988%	3.694	3.878	4.981%
10	50%	--	--	--	--	--	--
	80%	6.752	7.089	4.991%	5.404	5.674	4.996%
	100%	5.626	5.907	4.995%	4.502	4.727	4.998%
11	50%	--	--	--	--	--	--
	80%	8.764	9.202	4.998%	7.028	7.379	4.994%
	100%	7.418	7.788	4.988%	5.928	6.224	4.993%
12	50%	--	--	--	--	--	--
	80%	12.868	13.511	4.997%	10.277	10.790	4.992%
	100%	10.821	11.362	5.000%	8.658	9.090	4.990%
13	50%	--	--	--	--	--	--
	80%	17.539	18.415	4.995%	14.033	14.734	4.995%
	100%	14.770	15.508	4.997%	11.820	12.411	5.000%
14	50%	--	--	--	--	--	--
	80%	34.804	36.544	4.999%	27.849	29.241	4.998%
	100%	29.222	30.683	5.000%	23.373	24.541	4.997%

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
 Current and Proposed Rates
 Rate Table B

Rate Table B				
Table	Coinsurance	Current	Proposed	Change
1 Frame (F)	50%	--	--	
	80%	0.962	1.010	4.990%
	100%	0.952	0.999	4.937%
2 Brick (M)	50%	--	--	
	80%	1.012	1.062	4.941%
	100%	0.769	0.807	4.941%
3	50%	--	--	
	80%	0.815	0.855	4.908%
	100%	0.681	0.715	4.993%
(HC)	50%	1.186	1.245	4.975%
	80%	0.744	0.781	4.973%
	100%	0.708	0.743	4.944%
4 (WR)	50%	0.469	0.492	4.904%
	80%	0.294	0.308	4.762%
	100%	0.284	0.298	4.930%
(SWR)	50%	0.592	0.621	4.899%
	80%	0.372	0.390	4.839%
	100%	0.359	0.376	4.735%

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
 Current and Proposed Rates
 Miscellaneous Farm Property and Barns and Outbuildings

Territorial Multipliers for Miscellaneous Farm Property

Table	Coinsurance	Territory 1			Territories 8, 9, 10		
		Current	Proposed	Change	Current	Proposed	Change
15	80%	3.357	3.524	4.975%	3.712	3.897	4.984%
21	80%	4.020	4.221	5.000%	4.441	4.663	4.999%
22	80%	3.756	3.943	4.979%	4.140	4.347	5.000%
23	80%	2.857	2.999	4.970%	3.159	3.316	4.970%
24	80%	2.858	3.000	4.969%	3.159	3.316	4.970%

Territorial Multipliers for Barns and Outbuildings

Construction	Territory 1			Territories 8, 9, 10		
	Current	Proposed	Change	Current	Proposed	Change
Frame	5.523	5.799	4.997%	6.096	6.400	4.987%
Brick Veneer	5.666	5.949	4.995%	6.262	6.575	4.998%
Brick	4.736	4.972	4.983%	5.233	5.494	4.988%

Modified EC Rates are calculated by multiplying promulgated base rates by a 130% flex factor and the appropriate territorial multiplier
 All interim calculations are rounded down where applicable