TEXAS WINDSTORM INSURANCE ASSOCIATION
RESIDENTIAL PROPERTY RATE LEVEL REVIEW
2015

July 2015

TABLE OF CONTENTS

INTRODUCTION **1**

DISTRIBUTION AND USE **1**

RELIANCE UPON DATA **1**

LIMITATIONS **2**

EXECUTIVE SUMMARY **3**

ACTUARIAL ANALYSIS **5**

Overview of Analysis 5

Earned Premium at Current Rates 6

Loss Adjustment Expense Factors 6

Projected Non-Hurricane Loss and LAE Ratio 6

Projected Hurricane Loss and LAE Ratio 7

Fixed Expenses and Variable Permissible Loss and LAE Ratio 10

Indicated Rate Change 11

Data Issues 11

Key Differences Versus Prior Indications 11

FINANCIAL ANALYSIS **12**

SUMMARY OF EXHIBITS **13**

INTRODUCTION

The Texas Windstorm Insurance Association (TWIA) has completed studies sufficient to support rate level indications for its residential 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 residential 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 residential wind/hail coverage. The actual costs of providing residential 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 residential 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	+26%
Actual Industry Experience	+18%
Hurricane Simulation Models	+34%

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 51 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 4% less than the corresponding indication from the prior TWIA residential rate study. A 5% rate increase, effective January 1, 2015, was offset by increases in fixed expenses, including reinsurance.

   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 residential 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 industry and TWIA earned premium is adjusted to TWIA's current rate level. 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 TWIA rates. Industry earned premium was provided by TDI/TICO. Historical TWIA written premium is adjusted to the current rate level and adjusted to an earned basis based on a uniform monthly earning assumption.

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 these loss ratios is described in the following two 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 industry non-hurricane loss for accident years 2005 - 2014 to the earned premium at current TWIA rates for the same years. The indicated ultimate non-hurricane loss for each year is based on actual TWIA 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 the current average of all available years and prior selections. 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 residential book of business due to the growth, this weighting may be more appropriate than a non-weighted average across all years.

The all-territory indicated loss and LAE ratio is then calculated as the weighted average of the territory loss and LAE ratios. TWIA 2014 written premium is used in the weighted average calculation.

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 51 and 164 years, respectively. The other method is based on hurricane simulation models. The "51/164-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 51-year period is insufficient to measure long-term hurricane intensity.
- A 51-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 residential 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 double-counting or understatement of expected future losses resulting from the use of 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 51/164-Year Industry Hurricane Experience

In Exhibit 6, Texas insurance industry seacoast dwelling extended coverage experience for the 1964 - 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 51 years of loss ratios by separating the 51 years into the thirteen hurricane years and thirty-eight non-hurricane years. The 38 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 thirteen hurricane years. An average hurricane loss ratio for hurricane years is calculated as the average of the thirteen hurricane loss ratios: 94.5%.

The 51-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 51-year period is 0.275, while the annual frequency during the most recent 164-year period is 0.384. The 51-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 51-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 36.3%.

Hurricane Simulation Models

This projected hurricane loss ratio is determined based on the average result of two different hurricane simulation models. The models are 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. The total frequency for events of each intensity is shown with the intensity most relevant to Texas exposures. 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 48.2% and 42.1%. The average of these loss ratios is 45.2%.

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 shows a reconciliation of the premium data provided by TWIA to TWIA's annual statement data. This reconciliation shows the differences between the two data sources. Differences of less than 1% exist for all recent years except 2010.

Key Differences Versus Prior Indications

The indicated rate changes shown in this report are 4% lower those shown in the prior (August 2014) study. The reasons for the differences in indications are summarized in the following table.

Reconciliation of Current vs. Prior Indications

Rate Indication/Reason for Change	Impact of Change	Rate Indication
Previous Rate Indication (Combined Method)		**+30%**
TWIA Rate Level	-6%	
Change in Experience Period	+2%	
Current Rate Indication (Combined Method)		**+26%**

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 2% as a result of increases in the fixed expense provision.

SUMMARY OF EXHIBITS

Exhibit Number	Exhibit Title or Purpose
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 – 51/164-Year Method
7	Hurricane Loss Ratio – AIR Model
8	Hurricane Loss Ratio – RMS Model
9	Texas Hurricanes 1899 – 2014
10	Earned Premium at Present Rates
11	Fixed Expenses and Variable Permissible Loss & LAE Ratios
12	Reconciliation of Premium Data to Annual Statement

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

Exhibit 1

	Indicated Loss & LAE Ratio				Variable	Indicated	Proposed
Hurricane Projection Method	Hurricane	Non-Hurricane	Fixed Expenses	Total	Permissible LLAE Ratio	Rate Change	Rate Change
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Using Experience and Models	45.7%	10.8%	21.5%	78.0%	62.0%	+26%	+5.0%
Using Actual Industry Experience	40.7%	10.8%	21.5%	73.0%	62.0%	+18%	
Using Hurricane Models	50.6%	10.8%	21.5%	82.9%	62.0%	+34%	

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
Residential Property - Wind & Hail
Rate Level Review
Projected Ultimate Non-Hurricane Loss & LAE Ratio
All Territory Weighted Average

Territory	2014 Written Premium Amount	Share	Indicated Non-Hurricane Loss & LAE Ratio
(1)	(2)	(3)	(4)
Tier 1 - Territory 8	118,581,370	30.8%	10.7%
Tier 1 - Territory 9	66,342,927	17.2%	14.1%
Tier 1 - Territory 10	196,352,591	51.0%	9.8%
Tier 2	4,095,668	1.1%	9.9%
Total / Average	385,372,556	100.0%	10.8%

Notes:
(2) TWIA data
(3) = (2) / (2) Total
(4) Exhibit 2, Sheet 2a - Sheet 2d

Texas Windstorm Insurance Association
Residential Property - Wind & Hail
Rate Level Review
Projected Ultimate Non-Hurricane Loss & LAE Ratio based on TWIA experience
Tier 1 -- Territory 8 (Galveston County)

Accident Year Ending 9/30/xx	Ultimate Non-Hurricane Loss	LAE Factor	Net Trend Factor	Projected Non-Hurricane Loss & LAE	Earned Premium at Current TWIA Rate Level	Indicated Non-Hurricane Loss & LAE Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2005	4,891,222	0.199	1.179	6,914,334	59,612,902	11.6%
2006	684,266	0.199	1.120	918,887	70,620,857	1.3%
2007	1,295,331	0.199	1.070	1,661,819	92,175,545	1.8%
2008	433,109	0.199	1.143	593,557	108,534,284	0.5%
2009	3,445,214	0.199	1.158	4,783,480	109,897,498	4.4%
2010	1,272,309	0.199	1.164	1,775,680	113,108,872	1.6%
2011	1,308,183	0.199	1.164	1,825,747	114,906,591	1.6%
2012	11,092,881	0.199	1.120	14,896,408	116,929,492	12.7%
2013	58,669,803	0.199	1.083	76,183,737	119,661,472	63.7%
2014	534,006	0.199	1.047	670,366	122,143,703	0.5%
Total	83,626,324			110,224,015	1,027,591,216	10.7%

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

Texas Windstorm Insurance Association
Residential Property - Wind & Hail
Rate Level Review
Projected Ultimate Non-Hurricane Loss & LAE Ratio based on TWIA experience
Tier 1 -- Territory 9 (Nueces County)

Accident Year Ending 9/30/xx	Ultimate Non-Hurricane Loss	LAE Factor	Net Trend Factor	Projected Non-Hurricane Loss & LAE	Earned Premium at Current TWIA Rate Level	Indicated Non-Hurricane Loss & LAE Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2005	544,286	0.199	1.179	769,414	23,403,769	3.3%
2006	432,666	0.199	1.120	581,019	27,378,357	2.1%
2007	488,076	0.199	1.070	626,167	42,339,578	1.5%
2008	480,548	0.199	1.143	658,570	57,155,140	1.2%
2009	532,946	0.199	1.158	739,965	59,781,140	1.2%
2010	3,333,398	0.199	1.164	4,652,210	62,617,156	7.4%
2011	19,243,225	0.199	1.164	26,856,538	62,936,171	42.7%
2012	21,587,426	0.199	1.120	28,989,323	63,846,949	45.4%
2013	6,682,010	0.199	1.083	8,676,704	64,865,020	13.4%
2014	1,748,831	0.199	1.047	2,195,400	67,599,964	3.2%
Total	55,073,412			74,745,310	531,923,244	14.1%

Notes:

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

Texas Windstorm Insurance Association
Residential Property - Wind & Hail
Rate Level Review
Projected Ultimate Non-Hurricane Loss & LAE Ratio based on TWIA experience
Tier 1 -- Territory 10 (Other Tier 1)

Accident Year Ending 9/30/xx	Ultimate Non-Hurricane Loss	LAE Factor	Net Trend Factor	Projected Non-Hurricane Loss & LAE	Earned Premium at Current TWIA Rate Level	Indicated Non-Hurricane Loss & LAE Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2005	930,112	0.199	1.179	1,314,826	35,608,383	3.7%
2006	814,136	0.199	1.120	1,093,287	42,687,954	2.6%
2007	3,251,580	0.199	1.070	4,171,550	91,543,903	4.6%
2008	1,390,642	0.199	1.143	1,905,815	146,651,941	1.3%
2009	1,957,436	0.199	1.158	2,717,786	158,437,188	1.7%
2010	6,690,724	0.199	1.164	9,337,815	168,105,291	5.6%
2011	57,439,109	0.199	1.164	80,164,088	175,087,266	45.8%
2012	19,526,423	0.199	1.120	26,221,643	189,769,408	13.8%
2013	5,190,407	0.199	1.083	6,739,832	195,642,409	3.4%
2014	2,778,682	0.199	1.047	3,488,227	201,366,768	1.7%
Total	99,969,251			137,154,869	1,404,900,511	9.8%

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

Texas Windstorm Insurance Association
Residential Property - Wind & Hail
Rate Level Review
Projected Ultimate Non-Hurricane Loss & LAE Ratio based on TWIA experience
Tier 2 -- (Territories 1 and 11)

Accident Year Ending 9/30/xx	Ultimate Non-Hurricane Loss	LAE Factor	Net Trend Factor	Projected Non-Hurricane Loss & LAE	Earned Premium at Current TWIA Rate Level	Indicated Non-Hurricane Loss & LAE Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2005	34,018	0.199	1.179	48,089	1,613,659	3.0%
2006	31,341	0.199	1.120	42,087	1,934,818	2.2%
2007	65,115	0.199	1.070	83,538	2,505,127	3.3%
2008	486,202	0.199	1.143	666,319	2,863,167	23.3%
2009	552,254	0.199	1.158	766,773	3,015,582	25.4%
2010	183,969	0.199	1.164	256,754	3,271,135	7.8%
2011	55,742	0.199	1.164	77,796	3,517,855	2.2%
2012	271,736	0.199	1.120	364,909	3,906,196	9.3%
2013	547,002	0.199	1.083	710,291	4,148,481	17.1%
2014	38,527	0.199	1.047	48,365	4,218,022	1.1%
Total	2,265,906			3,064,921	30,994,042	9.9%

Notes:

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

Texas Windstorm Insurance Association
Residential Property - Wind & Hail
Rate Level Review
Projected Ultimate Non-Hurricane Loss
Tier 1 -- Territory 8 (Galveston County)

Accident Year	TWIA Non-Hurricane Paid Loss	Development Factor	Ultimate Non-Hurricane Loss
(1)	(2)	(3)	(4)
2005	4,891,222	1.000	4,891,222
2006	684,266	1.000	684,266
2007	1,295,331	1.000	1,295,331
2008	433,109	1.000	433,109
2009	3,441,772	1.001	3,445,214
2010	1,264,721	1.006	1,272,309
2011	1,276,276	1.025	1,308,183
2012	10,584,810	1.048	11,092,881
2013	53,924,451	1.088	58,669,803
2014	426,182	1.253	534,006
Total	78,222,140		83,626,324

Notes:
(2) Exhibit 2, Sheet 4a, as of 12/31/14
(3) Exhibit 3, Sheet 1
(4) = (2) * (3)

Texas Windstorm Insurance Association
Residential Property - Wind & Hail
Rate Level Review
Projected Ultimate Non-Hurricane Loss
Tier 1 -- Territory 9 (Nueces County)

Accident Year	TWIA Non-Hurricane Paid Loss	Development Factor	Ultimate Non-Hurricane Loss
(1)	(2)	(3)	(4)
2005	544,286	1.000	544,286
2006	432,666	1.000	432,666
2007	488,076	1.000	488,076
2008	480,548	1.000	480,548
2009	532,414	1.001	532,946
2010	3,313,517	1.006	3,333,398
2011	18,773,878	1.025	19,243,225
2012	20,598,689	1.048	21,587,426
2013	6,141,553	1.088	6,682,010
2014	1,395,715	1.253	1,748,831
Total	52,701,342		55,073,412

Notes:
(2) Exhibit 2, Sheet 4b, as of 12/31/14
(3) Exhibit 3, Sheet 1
(4) = (2) * (3)

Texas Windstorm Insurance Association
Residential Property - Wind & Hail
Rate Level Review
Projected Ultimate Non-Hurricane Loss
Tier 1 -- Territory 10 (Other Tier 1)

Accident Year	TWIA Non-Hurricane Paid Loss	Development Factor	Ultimate Non-Hurricane Loss
(1)	(2)	(3)	(4)
2005	930,112	1.000	930,112
2006	814,136	1.000	814,136
2007	3,251,580	1.000	3,251,580
2008	1,390,642	1.000	1,390,642
2009	1,955,481	1.001	1,957,436
2010	6,650,819	1.006	6,690,724
2011	56,038,155	1.025	57,439,109
2012	18,632,083	1.048	19,526,423
2013	4,770,595	1.088	5,190,407
2014	2,217,623	1.253	2,778,682
Total	96,651,226		99,969,251

Notes:
(2) Exhibit 2, Sheet 4c, as of 12/31/14
(3) Exhibit 3, Sheet 1
(4) = (2) * (3)

Texas Windstorm Insurance Association
Residential Property - Wind & Hail
Rate Level Review
Projected Ultimate Non-Hurricane Loss
Tier 2 -- (Territories 1 and 11)

Accident Year	TWIA Non-Hurricane Paid Loss	Development Factor	Ultimate Non-Hurricane Loss
(1)	(2)	(3)	(4)
2005	34,018	1.000	34,018
2006	31,341	1.000	31,341
2007	65,115	1.000	65,115
2008	486,202	1.000	486,202
2009	551,702	1.001	552,254
2010	182,872	1.006	183,969
2011	54,382	1.025	55,742
2012	259,290	1.048	271,736
2013	502,759	1.088	547,002
2014	30,748	1.253	38,527
Total	2,198,429		2,265,906

Notes:
(2) Exhibit 2, Sheet 4d, as of 12/31/14
(3) Exhibit 3, Sheet 1
(4) = (2) * (3)

Texas Windstorm Insurance Association
Residential Property - Wind & Hail
Rate Level Review
Summary of TWIA Historical Paid Loss as of 12/31/14
Tier 1 -- Territory 8 (Galveston County)

Accident Year	Paid Loss Excluding Expense Non-Hurricane	Hurricane	Total
(1)	(2)	(3)	(4)
2005	4,891,222	29,270,474	34,161,696
2006	684,266	0	684,266
2007	1,295,331	1,281,713	2,577,044
2008	433,109	1,047,566,183	1,047,999,292
2009	3,441,772	0	3,441,772
2010	1,264,721	0	1,264,721
2011	1,276,276	0	1,276,276
2012	10,584,810	0	10,584,810
2013	53,924,451	0	53,924,451
2014	426,182	0	426,182
Total	78,222,140	1,078,118,370	1,156,340,510

Notes:
(2) Provided by TDI. Accident years ending 9/30/xx
(4) = (2) + (3)

Texas Windstorm Insurance Association
Residential Property - Wind & Hail
Rate Level Review
Summary of TWIA Historical Paid Loss as of 12/31/14
Tier 1 -- Territory 9 (Nueces County)

Accident Year	Paid Loss Excluding Expense Non-Hurricane	Hurricane	Total
(1)	(2)	(3)	(4)
2005	544,286	119,899	664,185
2006	432,666	0	432,666
2007	488,076	0	488,076
2008	480,548	833,633	1,314,181
2009	532,414	0	532,414
2010	3,313,517	192,655	3,506,172
2011	18,773,878	0	18,773,878
2012	20,598,689	0	20,598,689
2013	6,141,553	0	6,141,553
2014	1,395,715	0	1,395,715
Total	52,701,342	1,146,187	53,847,529

Notes:
(2) Provided by TDI. Accident years ending 9/30/xx
(4) = (2) + (3)

Texas Windstorm Insurance Association
Residential Property - Wind & Hail
Rate Level Review
Summary of TWIA Historical Paid Loss as of 12/31/14
Tier 1 -- Territory 10 (Other Tier 1)

Accident Year	Paid Loss Excluding Expense Non-Hurricane	Hurricane	Total
(1)	(2)	(3)	(4)
2005	930,112	113,102,544	114,032,656
2006	814,136	0	814,136
2007	3,251,580	5,570,321	8,821,901
2008	1,390,642	690,528,329	691,918,971
2009	1,955,481	0	1,955,481
2010	6,650,819	1,303,271	7,954,090
2011	56,038,155	0	56,038,155
2012	18,632,083	0	18,632,083
2013	4,770,595	0	4,770,595
2014	2,217,623	0	2,217,623
Total	96,651,226	810,504,465	907,155,691

Notes:
(2) Provided by TDI. Accident years ending 9/30/xx
(4) = (2) + (3)

Texas Windstorm Insurance Association
Residential Property - Wind & Hail
Rate Level Review
Summary of TWIA Historical Paid Loss as of 12/31/14
Tier 2 -- (Territories 1 and 11)

Accident Year	Paid Loss Excluding Expense Non-Hurricane	Hurricane	Total
(1)	(2)	(3)	(4)
2005	34,018	30,359,672	30,393,690
2006	31,341	0	31,341
2007	65,115	328,111	393,226
2008	486,202	438,506,051	438,992,253
2009	551,702	0	551,702
2010	182,872	195,005	377,877
2011	54,382	0	54,382
2012	259,290	0	259,290
2013	502,759	0	502,759
2014	30,748	0	30,748
Total	2,198,429	469,388,839	471,587,268

Notes:
(2) Provided by TDI. Accident years ending 9/30/xx
(4) = (2) + (3)

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

Year / Quarter	Average EPPR
(1)	(2)
2006 / 3	1,401.32
2007 / 3	1,528.70
2008 / 3	1,577.75
2009 / 3	1,587.90
2010 / 3	1,595.13
2011 / 3	1,564.82
2012 / 3	1,553.45
2013 / 3	1,549.00
2014 / 3	1,554.73

(3) Current Average Earned Date	7/1/2014
(4) Current Average Accident Date	7/1/2014
(5) Prospective Average Earned / Accident Date	1/1/2017
(6) Premium Trend Length	2.500
(7) Loss Trend Length	2.500
(8) Selected Premium Trend	0.0%
(9) Selected Loss Trend	2.0%

Accident Year	Current Premium Trend	Current Loss Trend	Prospective Premium Trend	Prospective Loss Trend	Net Trend Factor
(10)	(11)	(12)	(13)	(14)	(15)
2005	1.109	1.245	1.000	1.051	1.179
2006	1.109	1.183	1.000	1.051	1.120
2007	1.109	1.130	1.000	1.051	1.070
2008	1.017	1.106	1.000	1.051	1.143
2009	0.985	1.086	1.000	1.051	1.158
2010	0.979	1.085	1.000	1.051	1.164
2011	0.975	1.080	1.000	1.051	1.164
2012	0.994	1.059	1.000	1.051	1.120
2013	1.001	1.031	1.000	1.051	1.083
2014	1.004	1.000	1.000	1.051	1.047

Notes:
(2) Exhibit 3, Sheet 2 (9)
(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 / 3
(12) Exhibit 3, Sheet 3a
(13) = [1 + (8)] ^ (6)
(14) = [1 + (9)] ^ (7)
(15) = [(12) * (14)] / [(11) * (13)]

Texas Windstorm Insurance Association
Residential Property - Wind & Hail
Rate Level Review
Paid Loss Development Factors
Statewide Industry Extended Coverage Dwelling Paid Loss

Exhibit 3
Sheet 1

Months of Development

Accident Year	15	27	39	51	63	75	87	99	111
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2005	124,373	152,899	155,841	160,133	163,221	163,331	163,442	163,505	163,507
2006	49,335	53,120	53,492	53,624	53,755	53,820	53,845	53,847	53,851
2007	53,874	59,731	61,175	61,738	61,853	61,978	61,980	61,987	
2008	435,381	557,638	625,922	688,372	756,380	774,976	775,409		
2009	114,845	136,583	139,262	140,625	140,941	141,037			
2010	63,706	70,824	72,510	73,282	73,407				
2011	137,269	154,006	156,583	157,456					
2012	162,844	196,788	232,373						
2013	124,050	143,360							
2014	151,447								

Development Factors

Accident Year	15 - 27	27 - 39	39 - 51	51 - 63	63 - 75	75 - 87	87 - 99	99 - 111	111 - Ult
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2005	1.229	1.019	1.028	1.019	1.001	1.001	1.000	1.000	
2006	1.077	1.007	1.002	1.002	1.001	1.000	1.000	1.000	
2007	1.109	1.024	1.009	1.002	1.002	1.000	1.000		
2008	1.281	1.122	1.100	1.099	1.025	1.001			
2009	1.189	1.020	1.010	1.002	1.001				
2010	1.112	1.024	1.011	1.002					
2011	1.122	1.017	1.006						
2012	1.208	1.181							
2013	1.156								
Average	1.165	1.052	1.024	1.021	1.006	1.000	1.000	1.000	
Avg 5 Year	1.157	1.073	1.027	1.021	1.006	1.000	1.000	1.000	
Prior	1.139	1.025	1.021	1.017	1.003	1.001	1.000	1.000	1.000
Selected	1.152	1.038	1.022	1.019	1.005	1.001	1.000	1.000	1.000
Cumulative	1.253	1.088	1.048	1.025	1.006	1.001	1.000	1.000	1.000

Notes:
Provided by TICO. Accident years ending 9/30/xx

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

Year / Quarter	Policies In-Force	Annualized Earned In-Force	Written Premium	On-Level Factors	Premium at Present Rates Written	Premium at Present Rates Earned	Earned Premium at Present Rates Annualized	Earned Premium at Present Rates Average	Exponential Fitted Trends All-Year	5-Year	4-Year	3-Year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2005 / 2	95,480		20,801,454	1.666	34,655,613	30,460,965						
2005 / 3	98,519		25,464,039	1.666	42,423,568	31,258,039						
2005 / 4	99,741		17,243,077	1.666	28,727,290	32,233,699						
2006 / 1	100,819		17,187,974	1.666	28,635,488	33,047,315	127,000,017					
2006 / 2	107,426	100,133	31,107,333	1.666	51,825,401	35,266,356	131,805,408	1,316	1,489			
2006 / 3	119,972	104,308	40,282,453	1.651	66,493,456	40,900,589	141,447,958	1,356	1,492			
2006 / 4	131,781	110,995	31,080,816	1.616	50,224,271	46,324,503	155,538,763	1,401	1,495			
2007 / 1	147,831	120,876	37,520,115	1.551	58,185,889	52,723,883	175,215,331	1,450	1,498			
2007 / 2	168,519	134,389	57,350,584	1.551	88,938,819	61,276,923	201,225,898	1,497	1,501			
2007 / 3	192,867	151,138	66,527,259	1.551	103,169,932	70,718,437	231,043,746	1,529	1,504			
2007 / 4	201,251	168,933	42,163,238	1.551	65,386,406	77,559,312	262,278,555	1,553	1,507			
2008 / 1	204,043	184,644	43,831,073	1.468	64,353,497	79,725,555	289,280,227	1,567	1,511			
2008 / 2	207,335	196,522	66,980,792	1.433	96,001,171	81,393,147	309,396,450	1,574	1,514			
2008 / 3	214,272	204,050	77,031,575	1.433	110,406,598	83,260,371	321,938,385	1,578	1,517			
2008 / 4	212,579	208,141	45,077,819	1.433	64,608,424	83,898,473	328,277,546	1,577	1,520			
2009 / 1	212,647	210,633	50,763,638	1.321	67,050,808	84,138,467	332,690,458	1,579	1,523	1,597		
2009 / 2	213,310	212,455	78,390,421	1.276	100,048,249	84,912,267	336,209,578	1,582	1,526	1,594		
2009 / 3	214,655	213,250	86,983,368	1.276	111,015,269	85,670,684	338,619,891	1,588	1,530	1,592		
2009 / 4	214,900	213,588	53,398,560	1.276	68,151,598	86,059,727	340,781,146	1,596	1,533	1,590		
2010 / 1	215,154	214,191	51,747,346	1.276	66,044,184	86,282,591	342,925,270	1,601	1,536	1,587	1,568	
2010 / 2	218,549	215,160	80,792,227	1.276	103,113,630	86,569,124	344,582,127	1,602	1,539	1,585	1,567	
2010 / 3	225,655	217,190	89,415,866	1.276	114,119,821	87,534,807	346,446,249	1,595	1,542	1,582	1,566	
2010 / 4	227,923	220,192	56,161,564	1.276	71,677,969	88,332,442	348,718,964	1,584	1,546	1,580	1,565	
2011 / 1	228,987	223,549	57,880,211	1.216	70,353,758	89,266,976	351,703,349	1,573	1,549	1,578	1,564	1,553
2011 / 2	230,887	226,821	89,007,580	1.216	108,189,270	90,318,575	355,452,800	1,567	1,552	1,575	1,563	1,553
2011 / 3	237,411	229,833	96,546,975	1.216	117,353,452	91,728,803	359,646,796	1,565	1,555	1,573	1,562	1,553
2011 / 4	241,392	232,986	64,055,335	1.216	77,859,660	92,549,447	363,863,801	1,562	1,559	1,570	1,561	1,553
2012 / 1	244,498	236,608	66,350,322	1.158	76,808,791	94,031,851	368,628,676	1,558	1,562	1,568	1,560	1,553
2012 / 2	243,404	240,112	93,957,382	1.158	108,767,414	95,336,568	373,646,669	1,556	1,565	1,566	1,559	1,553
2012 / 3	252,609	243,576	109,188,970	1.158	126,399,882	96,465,137	378,383,003	1,553	1,568	1,563	1,558	1,553
2012 / 4	252,764	246,897	66,296,611	1.158	76,746,614	97,567,656	383,401,211	1,553	1,572	1,561	1,557	1,554
2013 / 1	252,059	249,264	69,051,453	1.103	76,129,227	97,354,816	386,724,176	1,551	1,575	1,559	1,556	1,554
2013 / 2	251,745	251,252	105,991,687	1.103	116,855,835	97,916,681	389,304,290	1,549	1,578	1,556	1,555	1,554
2013 / 3	252,644	252,299	108,302,997	1.103	119,404,054	97,970,221	390,809,374	1,549	1,581	1,554	1,554	1,554
2013 / 4	256,918	252,822	77,531,453	1.103	85,478,427	98,646,138	391,887,856	1,550	1,585	1,551	1,553	1,554
2014 / 1	256,831	253,938	74,586,050	1.050	78,315,352	99,694,609	394,227,649	1,552	1,588	1,549	1,553	1,554
2014 / 2	252,568	254,637	108,012,068	1.050	113,412,671	100,224,403	396,535,371	1,557	1,591	1,547	1,552	1,554
2014 / 3	258,771	255,506	124,337,653	1.050	130,554,536	98,676,906	397,242,056	1,555	1,595	1,544	1,551	1,554
2014 / 4	262,383	256,955	82,460,091	1.050	86,583,096	101,762,762	400,358,680	1,558	1,598	1,542	1,550	1,554
(14) Average Annual Change									0.8%	-0.6%	-0.2%	0.0%
(15) Correlation Coefficient									23.1%	70.0%	67.4%	45.2%
(16) Selected Premium Trend												0.0%

Notes:
(2) Provided by TWIA
(3) Calculated from (2) using uniform quarterly earning assumption
(4) Provided by TWIA
(5) Cumulative effect of annual rate changes
(6) = (4) * (5) Indexed to 2012 / 4
(7) Calculated from (6) using uniform quarterly earning assumption
(8) = Sum of (7) for prior 4 quarters
(9) = (8) / (3)
(10) - (13) = (9) fitted to an exponential distribution
(14) Fitted average annual change
(15) Evaluates the predictability of the fitted curve
(16) Selected based on judgment

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

Calendar Year Ending 9/30/xx	Statewide Boeckh	Coastal Boeckh	Modified CPI	Weighted Average
(1)	(2)	(3)	(4)	(5)
2005	1.280	1.294	1.099	1.245
2006	1.212	1.219	1.075	1.183
2007	1.150	1.156	1.052	1.130
2008	1.129	1.129	1.036	1.106
2009	1.104	1.099	1.046	1.086
2010	1.101	1.097	1.050	1.085
2011	1.087	1.094	1.039	1.080
2012	1.064	1.073	1.016	1.059
2013	1.031	1.038	1.010	1.031
2014	1.000	1.000	1.000	1.000
Factors to Adjust For Prospective Loss Costs				
(6) Fitted Trend	2.4%	2.2%	1.3%	2.0%
(7) Cost Factor	1.067	1.062	1.036	1.056

Notes:
(2) = Exhibit 3, Sheet 3b trended forward to 9/30/2014
(3) = Exhibit 3, Sheet 3c trended forward to 9/30/2014
(4) = Exhibit 3, Sheet 3d
(5) = 25% CPI and 75% Boeckh (most appropriate available by year)
(6) = (2) - (5) fitted to an exponential curve using 5 years' data
(7) = [1 + (6)] ^ 2.75 (trended from 4/1/2014 to 1/1/2017)

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

Exhibit 3
Sheet 3b

Calendar Year Ending	Texas Statewide Index	Fitted Trends All Years Linear	All Years Exponential	5 Years Linear	5 Years Exponential	4 Years Linear	4 Years Exponential	3 Years Linear	3 Years Exponential
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
3/31/2005	1728.03	1793.45	1799.27						
6/30/2005	1748.11	1805.32	1809.98						
9/30/2005	1762.69	1817.19	1820.75						
12/31/2005	1780.52	1829.06	1831.58						
3/31/2006	1803.56	1840.93	1842.47						
6/30/2006	1829.79	1852.80	1853.43						
9/30/2006	1862.05	1864.67	1864.46						
12/31/2006	1896.38	1876.54	1875.55						
3/31/2007	1923.66	1888.41	1886.71						
6/30/2007	1945.15	1900.28	1897.94						
9/30/2007	1962.77	1912.15	1909.23						
12/31/2007	1973.20	1924.02	1920.59						
3/31/2008	1982.41	1935.89	1932.01						
6/30/2008	1990.80	1947.76	1943.51						
9/30/2008	1998.73	1959.63	1955.07						
12/31/2008	2006.58	1971.50	1966.70						
3/31/2009	2017.74	1983.37	1978.40						
6/30/2009	2034.78	1995.24	1990.17						
9/30/2009	2043.22	2007.11	2002.01						
12/31/2009	2046.48	2018.97	2013.92						
3/31/2010	2047.16	2030.84	2025.90	2014.53	2017.17				
6/30/2010	2046.06	2042.71	2037.95	2027.00	2028.93				
9/30/2010	2050.43	2054.58	2050.08	2039.47	2040.76				
12/31/2010	2057.86	2066.45	2062.27	2051.94	2052.66				
3/31/2011	2065.01	2078.32	2074.54	2064.41	2064.63	2044.02	2046.02		
6/30/2011	2070.12	2090.19	2086.88	2076.88	2076.68	2058.64	2059.92		
9/30/2011	2075.68	2102.06	2099.30	2089.34	2088.79	2073.25	2073.91		
12/31/2011	2083.08	2113.93	2111.79	2101.81	2100.97	2087.87	2087.99		
3/31/2012	2092.60	2125.80	2124.35	2114.28	2113.22	2102.48	2102.17	2089.04	2090.21
6/30/2012	2103.60	2137.67	2136.99	2126.75	2125.54	2117.10	2116.45	2105.65	2106.19
9/30/2012	2121.39	2149.54	2149.70	2139.22	2137.94	2131.71	2130.83	2122.25	2122.29
12/31/2012	2139.89	2161.41	2162.49	2151.69	2150.41	2146.33	2145.30	2138.85	2138.51
3/31/2013	2155.38	2173.28	2175.36	2164.16	2162.95	2160.95	2159.87	2155.46	2154.85
6/30/2013	2172.48	2185.15	2188.30	2176.63	2175.56	2175.56	2174.54	2172.06	2171.32
9/30/2013	2188.26	2197.02	2201.32	2189.10	2188.25	2190.18	2189.31	2188.66	2187.92
12/31/2013	2202.59	2208.89	2214.41	2201.57	2201.01	2204.79	2204.18	2205.26	2204.64
3/31/2014	2218.79	2220.76	2227.59	2214.04	2213.85	2219.41	2219.15	2221.87	2221.49
6/30/2014	2238.13	2232.63	2240.84	2226.51	2226.76	2234.03	2234.22	2238.47	2238.47
9/30/2014	2256.54	2244.50	2254.17	2238.97	2239.74	2248.64	2249.39	2255.07	2255.58
12/31/2014	2274.68	2256.37	2267.58	2251.44	2252.80	2263.26	2264.67	2271.68	2272.82
Annual Trend		2.1%	2.4%	2.2%	2.4%	2.6%	2.7%	2.9%	3.1%
R-Squared		0.947	0.935	0.956	0.961	0.983	0.985	0.999	0.999

Notes:
(2) = Average Index for Austin, Corpus Christi, Dallas, El Paso, Fort Worth, Houston, Odessa, and San Antonio
(3) - (10) = (2) fitted to linear and exponential distributions

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

Exhibit 3
Sheet 3c

Calendar Year Ending	Texas Coastal Index	Fitted Trends All Years Linear	All Years Exponential	5 Years Linear	5 Years Exponential	4 Years Linear	4 Years Exponential	3 Years Linear	3 Years Exponential
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
3/31/2005	1720.35	1797.22	1802.55						
6/30/2005	1740.42	1809.28	1813.43						
9/30/2005	1756.55	1821.34	1824.38						
12/31/2005	1776.85	1833.39	1835.40						
3/31/2006	1803.22	1845.45	1846.48						
6/30/2006	1831.27	1857.51	1857.62						
9/30/2006	1865.04	1869.56	1868.84						
12/31/2006	1900.04	1881.62	1880.12						
3/31/2007	1925.97	1893.68	1891.47						
6/30/2007	1947.53	1905.74	1902.89						
9/30/2007	1966.27	1917.79	1914.38						
12/31/2007	1977.64	1929.85	1925.94						
3/31/2008	1991.21	1941.91	1937.57						
6/30/2008	2002.80	1953.96	1949.27						
9/30/2008	2013.23	1966.02	1961.03						
12/31/2008	2024.37	1978.08	1972.87						
3/31/2009	2036.37	1990.14	1984.78						
6/30/2009	2055.55	2002.19	1996.77						
9/30/2009	2068.58	2014.25	2008.82						
12/31/2009	2075.34	2026.31	2020.95						
3/31/2010	2075.01	2038.36	2033.15	2026.76	2029.51				
6/30/2010	2072.68	2050.42	2045.43	2038.75	2040.82				
9/30/2010	2070.90	2062.48	2057.78	2050.75	2052.19				
12/31/2010	2070.54	2074.54	2070.20	2062.75	2063.62				
3/31/2011	2073.35	2086.59	2082.70	2074.75	2075.12	2042.08	2044.48		
6/30/2011	2074.41	2098.65	2095.27	2086.75	2086.68	2057.52	2059.09		
9/30/2011	2078.04	2110.71	2107.92	2098.75	2098.30	2072.96	2073.81		
12/31/2011	2083.41	2122.77	2120.65	2110.75	2109.99	2088.39	2088.63		
3/31/2012	2089.91	2134.82	2133.45	2122.74	2121.75	2103.83	2103.56	2082.64	2084.18
6/30/2012	2099.29	2146.88	2146.33	2134.74	2133.57	2119.27	2118.59	2101.20	2101.94
9/30/2012	2118.77	2158.94	2159.29	2146.74	2145.46	2134.70	2133.73	2119.76	2119.86
12/31/2012	2139.83	2170.99	2172.33	2158.74	2157.41	2150.14	2148.98	2138.32	2137.92
3/31/2013	2157.69	2183.05	2185.44	2170.74	2169.43	2165.57	2164.34	2156.87	2156.14
6/30/2013	2175.59	2195.11	2198.64	2182.74	2181.51	2181.01	2179.81	2175.43	2174.52
9/30/2013	2189.58	2207.17	2211.91	2194.74	2193.67	2196.45	2195.39	2193.99	2193.05
12/31/2013	2203.33	2219.22	2225.26	2206.73	2205.89	2211.88	2211.08	2212.54	2211.74
3/31/2014	2225.31	2231.28	2238.70	2218.73	2218.18	2227.32	2226.88	2231.10	2230.59
6/30/2014	2250.24	2243.34	2252.21	2230.73	2230.54	2242.76	2242.80	2249.66	2249.60
9/30/2014	2272.60	2255.39	2265.81	2242.73	2242.96	2258.19	2258.82	2268.22	2268.77
12/31/2014	2294.37	2267.45	2279.49	2254.73	2255.46	2273.63	2274.97	2286.77	2288.11
Annual Trend		2.1%	2.4%	2.1%	2.2%	2.7%	2.9%	3.2%	3.5%
R-Squared		0.925	0.911	0.889	0.894	0.962	0.966	0.994	0.996

Notes:
(2) = Average Index for Corpus Christi and Houston
(5) - (10) = (2) fitted to linear and exponential distributions

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

Exhibit 3
Sheet 3d

Calendar Year Ending	Modified CPI	Fitted Trends All Years Linear	All Years Exponential	5 Years Linear	5 Years Exponential	4 Years Linear	4 Years Exponential	3 Years Linear	3 Years 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
Residential 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
Residential 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)
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) 2006 - 2014: (2) * (3); 1978 - 2005: from prior TWIA annual statements

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

	Months of Development						
Accident Year	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						

	Development Factors						
Accident Year	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	1.122	1.046	1.019	1.022	0.991	0.997	0.000
Cumulative	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Texas Windstorm Insurance Association
Residential 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	2,489	2,459	4,948
2008		95,040	1	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); 1986 - 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
Residential Property - Wind & Hail
Rate Level Review
Incurred ALAE Development Factors
TWIA Schedule P Incurred ALAE (Including IBNR)

Months of Development

Accident Year	12	24	36	48	60	72	84
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(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						

Development Factors

Accident Year	12 - 24	24 - 36	36 - 48	48 - 60	60 - 72	72 - 84	84 - Ult
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
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	0.991	0.952	0.986	1.004	0.961	1.005	
Avg x hi / lo	1.068	0.976	0.984	1.001	0.997	1.000	
Avg 3 Year	1.157	1.040	1.041	1.034	0.926	1.009	
Avg 5 Year	0.863	0.903	1.006	1.016	0.954	1.005	
Prior	1.150	1.030	0.984	0.999	0.965	0.999	1.000
Selected	1.150	1.030	1.000	1.011	0.961	1.004	1.000
Cumulative	1.156	1.005	0.976	0.976	0.965	1.004	1.000

Texas Windstorm Insurance Association
Residential 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	36.3%	0.120	40.7%
Hurricane Models			
AIR Model	48.2%	0.120	54.0%
RMS Model	42.1%	0.120	47.2%
Average of Models	45.2%	0.120	50.6%

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

Texas Windstorm Insurance Association
Residential Property - Wind & Hail
Rate Level Review
Industry Experience -- Residential Extended Coverage
1964 - 2014 -- Hurricane Years Only

Accident Year	Earned Premium at Current TWIA Rate Level	Incurred Loss Ratio
(1)	(2)	(3)
1968	30,821,001	36.2%
1970	31,440,693	66.1%
1971	31,332,368	72.5%
1980	53,217,016	74.8%
1983	68,338,517	439.8%
1986	87,062,536	11.2%
1989	99,104,470	7.8%
1990	95,872,079	18.0%
1999	168,617,034	9.5%
2003	204,873,684	23.9%
2005	225,547,164	132.8%
2007	348,873,416	5.9%
2008	433,230,306	455.6%

(4)	Simple Average Loss Ratio for Hurricane Years	104.2%	
(5)	Selected Non-Hurricane Loss Ratio	9.7%	
(6)	Average Hurricane Loss Ratio for Hurricane Years	94.5%	
(7)	Historical Hurricane Frequency		
	(a) 51-Year (1/1/1964 - 12/31/2014)	0.275	(1 Hurricane Every 3.6 years)
	(a) 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	36.3%	

Notes:
(2) Exhibit 6, Sheet 2. Accident years ending 9/30/xx
(3) Exhibit 6, Sheet 2. 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
Residential Property - Wind & Hail
Rate Level Review
Industry Experience -- Residential Extended Coverage
1964 - 2014

Accident Year	Earned Premium	Earned Premium at CMR	Earned Premium at Current TWIA Rate Level	Incurred Losses	Incurred Loss Ratio	Hurricane Indicator
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1964		8,694,859	20,641,595	1,278,741	6.2%	
1965		12,141,513	28,823,952	944,410	3.3%	
1966		13,011,528	30,889,367	1,178,131	3.8%	
1967		13,130,860	31,172,662	663,024	2.1%	
1968		12,982,730	30,821,001	11,171,683	36.2%	H
1969		12,499,176	29,673,044	3,218,757	10.8%	
1970		13,243,763	31,440,693	20,786,468	66.1%	H
1971	10,640,335	13,198,133	31,332,368	22,731,206	72.5%	H
1972	12,302,040	13,902,740	33,005,105	2,242,093	6.8%	
1973	12,935,382	12,724,690	30,208,414	4,933,261	16.3%	
1974	12,794,652	11,637,700	27,627,900	2,293,219	8.3%	
1975	13,633,616	12,392,309	29,419,342	3,062,897	10.4%	
1976	17,088,846	13,884,831	32,962,589	1,522,489	4.6%	
1977	23,643,216	17,474,220	41,483,798	972,383	2.3%	
1978	28,157,329	19,320,941	45,867,914	1,449,823	3.2%	
1979	32,867,536	21,563,567	51,191,908	3,940,899	7.7%	
1980	32,179,994	22,416,603	53,217,016		74.8%	H
1981	30,817,037	29,693,419	70,492,177		3.2%	
1982	28,140,159	32,398,474	66,804,737		2.3%	
1983	28,786,234	39,817,626	68,338,517		439.8%	H
1984	20,078,668	34,626,400	47,666,758		14.3%	
1985	30,043,452	53,801,222	71,323,155		6.0%	
1986	36,673,352		87,062,536		11.2%	
1987	41,598,709		98,755,335		2.7%	
1988	45,044,392		106,935,384		11.8%	
1989	41,745,774		99,104,470		7.8%	H
1990	40,384,195		95,872,079		18.0%	H
1991	46,237,137		109,766,963		80.6%	
1992	44,512,572		105,672,849		7.1%	
1993	50,741,120		120,459,419		11.1%	
1994	57,584,585		136,705,805		5.6%	
1995	60,740,049		144,196,878		7.7%	
1996	71,865,572		170,608,868		3.9%	
1997	79,154,547		187,912,894		4.9%	
1998	80,238,260		190,485,627		21.7%	
1999	71,026,552		168,617,034		9.5%	H
2000	75,114,174		178,321,050		5.8%	
2001	74,726,401		148,458,173		7.6%	
2002	86,289,350		157,560,608		18.8%	
2003	112,200,741		204,873,684		23.9%	H
2004	123,050,217		214,246,750		1.9%	
2005	135,380,924		225,547,164		132.8%	H
2006	154,699,767		257,114,181		2.3%	
2007	219,914,305		348,873,416		5.9%	H
2008	289,558,186		433,230,306		455.6%	H
2009	327,305,758		444,929,442		2.0%	
2010	355,219,215		453,482,306		4.3%	
2011	370,875,863		461,775,522		21.5%	
2012	406,981,851		482,609,589		14.5%	
2013	440,952,159		498,059,966		17.3%	
2014	477,967,172		514,268,915		1.7%	
Total / Average	4,273,924,223	434,557,304	7,749,911,224		33.7%	
Average of Non-Hurricane Years					9.7%	
Selected					9.7%	

Notes: (2), (3) Provided by TDI. Accident years ending 9/30/xx as of 12/31/2014
(4) 1980 - 2004: Sum of Exhibit 6, Sheet 4 - Sheet 7, (4); 1971 - 1979: (3) * 2.4
(5) Provided by TDI. Accident years ending 9/30/xx as of 12/31/2014
(6) 1980 - 2004: Exhibit 6, Sheet 3; 1964 - 1979: (5) / (4)
(7) "H" indicates occurrence of hurricane(s) during the time period (years ending 9/30/xx)

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

Loss Ratios by Territory / Tier

Accident Year	Territory 8	Territory 9	Territory 10	Tier 2	Weighted Loss Ratio
(1)	(2)	(3)	(4)	(5)	(6)
1982	1.7%	2.1%	2.7%	3.6%	2.3%
1983	1159.9%	6.8%	157.0%	160.1%	439.8%
1984	3.5%	6.4%	22.9%	36.5%	14.3%
1985	1.8%	7.9%	7.7%	12.2%	6.0%
1986	1.2%	2.7%	20.1%	13.4%	11.2%
1987	0.6%	3.9%	3.5%	7.0%	2.7%
1988	5.4%	6.6%	17.5%	7.0%	11.8%
1989	6.0%	6.3%	9.1%	16.9%	7.8%
1990	31.8%	11.4%	11.7%	23.5%	18.0%
1991	64.4%	14.2%	114.1%	17.0%	80.6%
1992	1.3%	12.6%	8.5%	19.3%	7.1%
1993	13.7%	12.1%	8.9%	23.6%	11.1%
1994	2.5%	6.3%	7.1%	8.4%	5.6%
1995	3.1%	9.5%	9.5%	24.8%	7.7%
1996	1.5%	5.2%	4.8%	9.9%	3.9%
1997	1.9%	4.4%	6.9%	8.4%	4.9%
1998	19.4%	11.0%	26.9%	10.3%	21.7%
1999	2.2%	18.8%	10.7%	10.8%	9.5%
2000	0.9%	2.4%	9.7%	11.0%	5.8%
2001	5.5%	7.9%	8.1%	36.0%	7.6%
2002	26.9%	6.4%	18.2%	11.6%	18.8%
2003	5.7%	9.1%	40.2%	11.4%	23.9%
2004	1.4%	2.1%	2.1%	4.3%	1.9%
2005	56.3%	3.0%	224.7%	41.0%	132.8%
2006	1.1%	1.9%	3.0%	5.4%	2.3%
2007	2.9%	1.8%	9.1%	5.4%	5.9%
2008	766.0%	2.4%	420.9%	461.0%	455.6%
2009	3.2%	1.0%	1.4%	10.4%	2.0%
2010	1.3%	6.3%	5.3%	12.0%	4.3%
2011	1.1%	30.0%	31.3%	6.7%	21.5%
2012	9.1%	31.9%	10.2%	88.6%	14.5%
2013	44.9%	10.1%	3.0%	19.5%	17.3%
2014	0.5%	2.7%	1.8%	14.8%	1.7%
Average	68.1%	8.1%	37.5%	34.9%	41.9%

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	30.8%	17.2%	51.0%	1.1%	100.1%

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
Residential Property - Wind & Hail
Rate Level Review
Industry Experience -- Residential Extended Coverage
Tier 1 -- Territory 8 (Galveston County)

Accident Year	Earned Premium	Factor to TWIA Rate Level	Earned Premium at Current TWIA Rate Level	Incurred Loss	Incurred Loss Ratio
(1)	(2)	(3)	(4)	(5)	(6)
1982	2,947,993	2.374	6,998,535	117,400	1.7%
1983	4,317,605	2.374	10,249,994	118,889,570	1159.9%
1984	3,512,853	2.374	8,339,513	292,543	3.5%
1985	6,066,870	2.374	14,402,749	265,705	1.8%
1986	6,846,710	2.374	16,254,090	187,218	1.2%
1987	7,738,740	2.374	18,371,769	111,242	0.6%
1988	8,043,378	2.374	19,094,979	1,026,666	5.4%
1989	8,149,957	2.374	19,347,998	1,163,813	6.0%
1990	7,816,199	2.374	18,555,656	5,908,943	31.8%
1991	8,645,208	2.374	20,523,724	13,225,287	64.4%
1992	5,826,467	2.374	13,832,033	180,484	1.3%
1993	5,825,916	2.374	13,830,725	1,900,088	13.7%
1994	6,996,874	2.374	16,610,579	420,038	2.5%
1995	8,737,576	2.374	20,743,005	644,169	3.1%
1996	11,652,672	2.374	27,663,443	406,004	1.5%
1997	12,573,252	2.374	29,848,900	573,343	1.9%
1998	13,838,930	2.374	32,853,620	6,371,206	19.4%
1999	14,103,814	2.374	33,482,454	742,130	2.2%
2000	15,784,218	2.374	37,471,734	324,948	0.9%
2001	17,776,666	1.987	35,316,720	1,947,817	5.5%
2002	20,514,469	1.826	37,458,530	10,059,284	26.9%
2003	25,868,450	1.826	47,234,667	2,672,918	5.7%
2004	30,357,860	1.741	52,857,061	731,759	1.4%
2005	36,780,457	1.666	61,276,933	34,527,644	56.3%
2006	43,562,211	1.662	72,401,287	813,430	1.1%
2007	59,282,257	1.586	94,045,740	2,757,645	2.9%
2008	73,789,694	1.496	110,402,445	845,675,067	766.0%
2009	81,999,709	1.359	111,467,898	3,567,563	3.2%
2010	89,665,314	1.277	114,469,127	1,451,547	1.3%
2011	93,230,854	1.245	116,081,230	1,328,761	1.1%
2012	99,629,727	1.186	118,143,503	10,726,580	9.1%
2013	107,104,250	1.130	120,975,344	54,286,510	44.9%
2014	114,784,032	1.076	123,501,912	615,273	0.5%
Total	1,053,771,182		1,594,107,897	1,123,912,595	70.5%

Notes:

(2) Provided by TDI. Accident years ending 1/0/xx as of 1/0/1900
(3) 1998 and prior judgementally selected; 1999 - 2012 based on TWIA on-level factors
(4) = (2) * (3)
(5) Provided by TDI. Accident years ending 1/0/xx as of 1/0/1900
(6) = (5) / (4)

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

Accident Year	Earned Premium	Factor to TWIA Rate Level	Earned Premium at Current TWIA Rate Level	Incurred Loss	Incurred Loss Ratio
(1)	(2)	(3)	(4)	(5)	(6)
1982	2,223,376	2.374	5,278,295	111,420	2.1%
1983	2,331,938	2.374	5,536,021	377,010	6.8%
1984	1,632,317	2.374	3,875,121	249,086	6.4%
1985	2,505,564	2.374	5,948,209	467,721	7.9%
1986	2,977,992	2.374	7,069,753	189,449	2.7%
1987	3,639,667	2.374	8,640,569	335,212	3.9%
1988	3,971,251	2.374	9,427,750	626,491	6.6%
1989	3,702,536	2.374	8,789,820	550,215	6.3%
1990	3,519,306	2.374	8,354,832	955,271	11.4%
1991	4,065,190	2.374	9,650,761	1,367,254	14.2%
1992	3,907,712	2.374	9,276,908	1,170,578	12.6%
1993	4,552,395	2.374	10,807,386	1,312,776	12.1%
1994	5,710,806	2.374	13,557,453	856,369	6.3%
1995	6,908,552	2.374	16,400,902	1,552,987	9.5%
1996	8,568,168	2.374	20,340,831	1,061,115	5.2%
1997	8,425,344	2.374	20,001,767	882,561	4.4%
1998	8,803,621	2.374	20,899,796	2,289,890	11.0%
1999	8,465,256	2.374	20,096,518	3,778,386	18.8%
2000	8,437,094	2.374	20,029,661	485,581	2.4%
2001	8,894,552	1.987	17,670,715	1,394,445	7.9%
2002	10,534,795	1.826	19,236,078	1,227,528	6.4%
2003	13,881,847	1.826	25,347,650	2,295,803	9.1%
2004	15,458,506	1.741	26,915,310	569,877	2.1%
2005	17,471,646	1.666	29,108,091	872,451	3.0%
2006	19,888,512	1.662	33,055,114	621,501	1.9%
2007	29,704,042	1.586	47,122,676	832,164	1.8%
2008	40,565,108	1.496	60,692,583	1,468,028	2.4%
2009	46,363,445	1.359	63,025,050	633,808	1.0%
2010	51,529,115	1.277	65,783,440	4,117,010	6.3%
2011	52,931,755	1.245	65,905,041	19,772,672	30.0%
2012	56,334,273	1.186	66,802,636	21,290,337	31.9%
2013	60,101,696	1.130	67,885,479	6,844,016	10.1%
2014	65,642,034	1.076	70,627,565	1,894,205	2.7%
Total	583,649,411		883,159,781	82,453,217	9.3%

Notes:

(2) Provided by TDI. Accident years ending 9/30/xx as of 12/31/2014
(3) 1998 and prior judgementally selected; 1999 - 2012 based on TWIA on-level factors
(4) = (2) * (3)
(5) Provided by TDI. Accident years ending 9/30/xx as of 12/31/2014
(6) = (5) / (4)

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

Accident Year	Earned Premium	Factor to TWIA Rate Level	Earned Premium at Current TWIA Rate Level	Incurred Loss	Incurred Loss Ratio
(1)	(2)	(3)	(4)	(5)	(6)
1982	5,695,062	2.374	13,520,077	361,294	2.7%
1983	5,888,781	2.374	13,979,966	21,953,626	157.0%
1984	3,924,651	2.374	9,317,121	2,135,063	22.9%
1985	5,808,825	2.374	13,790,151	1,055,065	7.7%
1986	6,993,722	2.374	16,603,096	3,338,312	20.1%
1987	7,677,374	2.374	18,226,086	634,637	3.5%
1988	8,284,768	2.374	19,668,039	3,434,130	17.5%
1989	7,733,295	2.374	18,358,842	1,670,422	9.1%
1990	7,568,146	2.374	17,966,779	2,095,151	11.7%
1991	8,287,605	2.374	19,674,774	22,444,044	114.1%
1992	8,059,407	2.374	19,133,032	1,625,108	8.5%
1993	8,448,603	2.374	20,056,984	1,776,572	8.9%
1994	9,743,293	2.374	23,130,578	1,637,915	7.1%
1995	10,745,995	2.374	25,510,992	2,416,675	9.5%
1996	13,294,968	2.374	31,562,254	1,520,229	4.8%
1997	15,708,220	2.374	37,291,314	2,569,544	6.9%
1998	16,168,136	2.374	38,383,155	10,312,506	26.9%
1999	14,452,667	2.374	34,310,631	3,655,754	10.7%
2000	14,453,385	2.374	34,312,336	3,332,580	9.7%
2001	15,173,521	1.987	30,145,078	2,426,814	8.1%
2002	17,843,905	1.826	32,582,196	5,925,066	18.2%
2003	23,423,208	1.826	42,769,761	17,213,668	40.2%
2004	27,306,202	1.741	47,543,720	990,613	2.1%
2005	31,012,304	1.666	51,667,081	116,112,085	224.7%
2006	36,545,725	1.662	60,739,743	1,842,548	3.0%
2007	69,945,120	1.586	110,961,372	10,105,722	9.1%
2008	110,187,567	1.496	164,860,106	693,912,735	420.9%
2009	128,275,387	1.359	174,373,640	2,498,977	1.4%
2010	143,236,007	1.277	182,858,899	9,686,292	5.3%
2011	151,387,931	1.245	188,492,290	59,009,323	31.3%
2012	170,159,709	1.186	201,779,777	20,661,138	10.2%
2013	183,495,510	1.130	207,260,052	6,218,795	3.0%
2014	197,640,681	1.076	212,651,547	3,757,590	1.8%
Total	1,286,928,999		2,133,481,472	1,038,329,993	48.7%

Notes:

(2) Provided by TDI. Accident years ending 9/30/xx as of 12/31/2014
(3) 1998 and prior judgementally selected; 1999 - 2012 based on TWIA on-level factors
(4) = (2) * (3)
(5) Provided by TDI. Accident years ending 9/30/xx as of 12/31/2014
(6) = (5) / (4)

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

Accident Year	Earned Premium	Factor to TWIA Rate Level	Earned Premium at Current TWIA Rate Level	Incurred Loss	Incurred Loss Ratio
(1)	(2)	(3)	(4)	(5)	(6)
1982	17,273,728	2.374	41,007,830	1,472,069	3.6%
1983	16,247,909	2.374	38,572,536	61,752,490	160.1%
1984	11,008,847	2.374	26,135,003	9,535,536	36.5%
1985	15,662,193	2.374	37,182,046	4,532,749	12.2%
1986	19,854,927	2.374	47,135,597	6,306,903	13.4%
1987	22,542,928	2.374	53,516,911	3,739,010	7.0%
1988	24,744,994	2.374	58,744,616	4,139,098	7.0%
1989	22,159,987	2.374	52,607,809	8,884,751	16.9%
1990	21,480,544	2.374	50,994,811	11,997,188	23.5%
1991	25,239,134	2.374	59,917,704	10,178,608	17.0%
1992	26,718,987	2.374	63,430,875	12,221,034	19.3%
1993	31,914,206	2.374	75,764,325	17,910,197	23.6%
1994	35,133,612	2.374	83,407,195	6,968,697	8.4%
1995	34,347,927	2.374	81,541,979	20,240,594	24.8%
1996	38,349,764	2.374	91,042,340	9,046,495	9.9%
1997	42,447,731	2.374	100,770,913	8,514,675	8.4%
1998	41,427,572	2.374	98,349,056	10,127,907	10.3%
1999	34,004,815	2.374	80,727,431	8,680,187	10.8%
2000	36,439,477	2.374	86,507,318	9,518,422	11.0%
2001	32,881,662	1.987	65,325,660	23,547,404	36.0%
2002	37,396,181	1.826	68,283,803	7,950,367	11.6%
2003	49,027,236	1.826	89,521,605	10,177,909	11.4%
2004	49,927,649	1.741	86,930,660	3,738,542	4.3%
2005	50,116,517	1.666	83,495,059	34,201,898	41.0%
2006	54,703,319	1.662	90,918,036	4,907,133	5.4%
2007	60,982,886	1.586	96,743,628	5,242,698	5.4%
2008	65,015,817	1.496	97,275,172	448,473,155	461.0%
2009	70,667,217	1.359	96,062,854	9,959,666	10.4%
2010	70,788,779	1.277	90,370,840	10,872,098	12.0%
2011	73,325,323	1.245	91,296,961	6,074,868	6.7%
2012	80,858,142	1.186	95,883,673	84,916,495	88.6%
2013	90,250,703	1.130	101,939,091	19,890,732	19.5%
2014	99,900,425	1.076	107,487,891	15,915,124	14.8%
Total	1,402,841,138		2,488,891,229	911,634,699	36.6%

Notes:

(2) Provided by TDI. Accident years ending 9/30/xx as of 12/31/2014
(3) 1998 and prior judgementally selected; 1999 - 2012 based on TWIA on-level factors
(4) = (2) * (3)
(5) Provided by TDI. Accident years ending 9/30/xx as of 12/31/2014
(6) = (5) / (4)

Texas Windstorm Insurance Association
Residential 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	2,022,049	3.551	7,180,296
Brazoria	15,773,297	1.489	23,486,439
Calhoun	938,518	3.515	3,298,891
Cameron	3,782,622	1.560	5,900,890
Chambers	1,928,547	1.535	2,960,320
Galveston	22,838,494	3.645	83,246,311
Harris	1,305,268	4.169	5,441,662
Jefferson	9,348,524	1.826	17,070,405
Kenedy	7,518	1.241	9,330
Kleberg	275,414	1.073	295,519
Matagorda	1,278,561	2.620	3,349,830
Nueces	12,826,118	2.697	34,592,040
Refugio	89,970	1.710	153,849
San Patricio	2,480,609	2.272	5,635,944
Willacy	125,802	1.990	250,346
Total	75,021,311	2.571	192,872,072
(5) 2014 Earned Premium at Present Rates			400,358,680
(6) Indicated Hurricane Loss Ratio			48.2%

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

Texas Windstorm Insurance Association
Residential 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	2,022,049	7,152,414	1.004	3.551
Brazoria	15,773,297	23,390,567	1.004	1.489
Calhoun	938,518	3,286,128	1.004	3.515
Cameron	3,782,622	5,876,969	1.004	1.560
Chambers	1,928,547	2,948,010	1.004	1.535
Galveston	22,838,494	82,904,924	1.004	3.645
Harris	1,305,268	5,419,380	1.004	4.169
Jefferson	9,348,524	16,998,753	1.004	1.826
Kenedy	7,518	9,296	1.004	1.241
Kleberg	275,414	294,433	1.004	1.073
Matagorda	1,278,561	3,335,893	1.004	2.620
Nueces	12,826,118	34,456,213	1.004	2.697
Refugio	89,970	153,264	1.004	1.710
San Patricio	2,480,609	5,614,716	1.004	2.272
Willacy	125,802	249,386	1.004	1.990
Total	75,021,311	192,090,346	1.004	2.571

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
Residential 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	2,114,679	2.551	5,394,546
Brazoria	15,755,482	1.584	24,956,683
Calhoun	956,153	3.821	3,653,461
Cameron	3,782,622	1.777	6,721,719
Chambers	2,053,786	1.725	3,542,781
Galveston	22,845,619	3.003	68,605,394
Harris	1,166,551	2.957	3,449,491
Jefferson	9,371,539	1.855	17,384,205
Kenedy	7,518	2.516	18,915
Kleberg	275,414	1.492	410,918
Matagorda	1,263,124	2.703	3,414,224
Nueces	12,826,425	2.025	25,973,511
Refugio	87,537	2.261	197,921
San Patricio	2,389,060	1.902	4,543,992
Willacy	125,802	2.387	300,289
Total	75,021,311	2.247	168,568,050
(5) 2014 Earned Premium at Present Rates			400,358,680
(6) Indicated Hurricane Loss Ratio			42.1%

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

Texas Windstorm Insurance Association
Residential 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	2,114,679	5,298,637	1.018	2.551
Brazoria	15,755,482	24,518,525	1.018	1.584
Calhoun	956,153	3,588,853	1.018	3.821
Cameron	3,782,622	6,601,862	1.018	1.777
Chambers	2,053,786	3,479,226	1.018	1.725
Galveston	22,845,619	67,395,498	1.018	3.003
Harris	1,166,551	3,388,962	1.018	2.957
Jefferson	9,371,539	17,075,685	1.018	1.855
Kenedy	7,518	18,579	1.018	2.516
Kleberg	275,414	403,755	1.018	1.492
Matagorda	1,263,124	3,354,187	1.018	2.703
Nueces	12,826,425	25,512,478	1.018	2.025
Refugio	87,537	194,443	1.018	2.261
San Patricio	2,389,060	4,462,684	1.018	1.902
Willacy	125,802	294,975	1.018	2.387
Total	75,021,311	165,588,349	1.018	2.247

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
Residential Property - Wind & Hail
Rate Level Review
Texas Hurricanes 1850 - 2014

Exhibit 9

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

Frequency	Date Period	Hurricanes	Period	Annual Frequency
51-Year	1/1/1964 - 12/31/2014	14	51	0.275
164-Year	1/1/1851 - 12/31/2014	63	164	0.384

Notes:
(1), (2) from NOAA Technical Memorandum NWS TPC-5, updated through 2007

Texas Windstorm Insurance Association
Residential Property - Wind & Hail
Rate Level Review
Calculation of TWIA Earned Premium at Present Rate Level
Tier 1 -- Territory 8 (Galveston County)

Year	TWIA Earned Premium	Factor to Current Rate Level	Earned Premium at Current Rate Level
(1)	(2)	(3)	(4)
2005	35,781,650	1.666	59,612,902
2006	42,490,967	1.662	70,620,857
2007	58,103,369	1.586	92,175,545
2008	72,541,071	1.496	108,534,284
2009	80,844,468	1.359	109,897,498
2010	88,599,807	1.277	113,108,872
2011	92,287,441	1.245	114,906,591
2012	98,605,959	1.186	116,929,492
2013	105,941,027	1.130	119,661,472
2014	113,521,698	1.076	122,143,703
Total	788,717,457		1,027,591,216

Notes:
(2) Provided by TWIA
(3) Provided by TWIA
(4) = (2) * (3)

Texas Windstorm Insurance Association
Residential Property - Wind & Hail
Rate Level Review
Calculation of TWIA Earned Premium at Present Rate Level
Tier 1 -- Territory 9 (Nueces County)

Year	TWIA Earned Premium	Factor to Current Rate Level	Earned Premium at Current Rate Level
(1)	(2)	(3)	(4)
2005	14,047,722	1.666	23,403,769
2006	16,472,936	1.662	27,378,357
2007	26,688,989	1.586	42,339,578
2008	38,200,787	1.496	57,155,140
2009	43,977,111	1.359	59,781,140
2010	49,048,919	1.277	62,617,156
2011	50,547,302	1.245	62,936,171
2012	53,841,760	1.186	63,846,949
2013	57,427,564	1.130	64,865,020
2014	62,828,148	1.076	67,599,964
Total	413,081,238		531,923,244

Notes:
(2) Provided by TWIA
(3) Provided by TWIA
(4) = (2) * (3)

Texas Windstorm Insurance Association
Residential Property - Wind & Hail
Rate Level Review
Calculation of TWIA Earned Premium at Present Rate Level
Tier 1 -- Territory 10 (Other Tier 1)

Year	TWIA Earned Premium	Factor to Current Rate Level	Earned Premium at Current Rate Level
(1)	(2)	(3)	(4)
2005	21,373,338	1.666	35,608,383
2006	25,684,373	1.662	42,687,954
2007	57,705,210	1.586	91,543,903
2008	98,017,773	1.496	146,651,941
2009	116,551,972	1.359	158,437,188
2010	131,679,293	1.277	168,105,291
2011	140,621,661	1.245	175,087,266
2012	160,031,435	1.186	189,769,408
2013	173,209,952	1.130	195,642,409
2014	187,152,484	1.076	201,366,768
Total	1,112,027,491		1,404,900,511

Notes:
(2) Provided by TWIA
(3) Provided by TWIA
(4) = (2) * (3)

Texas Windstorm Insurance Association
Residential Property - Wind & Hail
Rate Level Review
Calculation of TWIA Earned Premium at Present Rate Level
Tier 2 -- (Territories 1 and 11)

Year	TWIA Earned Premium	Factor to Current Rate Level	Earned Premium at Current Rate Level
(1)	(2)	(3)	(4)
2005	968,572	1.666	1,613,659
2006	1,164,136	1.662	1,934,818
2007	1,579,121	1.586	2,505,127
2008	1,913,655	1.496	2,863,167
2009	2,218,368	1.359	3,015,582
2010	2,562,327	1.277	3,271,135
2011	2,825,372	1.245	3,517,855
2012	3,294,072	1.186	3,906,196
2013	3,672,814	1.130	4,148,481
2014	3,920,276	1.076	4,218,022
Total	24,118,713		30,994,042

Notes:
(2) Provided by TWIA
(3) Provided by TWIA
(4) = (2) * (3)

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

Year	Earned Premium at Current Manual Rates	Factor to Current Rate Level	Earned Premium at Current Rate Level
(1)	(2)	(3)	(4)
2005	74,378,169	1.666	123,915,428
2006	93,584,144	1.662	155,538,763
2007	165,328,751	1.586	262,278,555
2008	219,410,898	1.496	328,277,546
2009	250,690,606	1.359	340,781,146
2010	273,156,582	1.277	348,718,964
2011	292,237,884	1.245	363,863,801
2012	323,320,005	1.186	383,401,211
2013	346,953,797	1.130	391,887,856
2014	372,097,750	1.076	400,358,680
Total	2,411,158,586		3,099,021,950

Notes:
(2) Provided by TWIA
(3) Based on historical rate changes
(4) = (2) * (3)

Texas Windstorm Insurance Association
Residential 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
Residential 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	35,763,335
(5)	Net Cost of Reinsurance	87,590,648
(6)	TWIA 2014 Earned Premium at Present Rates	526,691,643
(7)	2015 - 2016 TWIA Prospective Earned Premium at Present Rates	533,715,039
(8)	Indicated Reinsurance Expense %	16.4%

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) ^ 0.750]
(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) ^ 1.167] (projected premium growth from 7/1/2014 to 9/1/2015)
(8) = (5) / (7)

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

Exhibit 12

Calendar Year	TWIA Provided Written Premium Commercial	Residential	Total	Annual Statement Gross 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 12/31/2013
(4) = (2) + (3)
(5) Based on TWIA Annual Statements
(6) = (4) - (5)

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

Territorial Multipliers for Dwellings

	Territory 1			Territories 8, 9, 10		
Construction	Current	Proposed	Change	Current	Proposed	Change
Frame	2.571	2.699	4.979%	4.042	4.244	4.998%
Brick Veneer	2.640	2.772	5.000%	4.219	4.429	4.977%
Brick	2.191	2.300	4.975%	3.502	3.677	4.997%

Territorial Multipliers for Personal Property

	Territory 1			Territories 8, 9, 10		
Construction	Current	Proposed	Change	Current	Proposed	Change
Frame	2.633	2.764	4.975%	4.141	4.348	4.999%
Brick Veneer	2.537	2.663	4.966%	4.156	4.363	4.981%
Brick	2.144	2.251	4.991%	3.420	3.591	5.000%

Territorial Multipliers for Farm and Ranch Dwellings

	Territory 1			Territories 8, 9, 10		
Construction	Current	Proposed	Change	Current	Proposed	Change
Frame	2.571	2.699	4.979%	4.042	4.244	4.998%
Brick Veneer	2.640	2.772	5.000%	4.219	4.429	4.977%
Brick	2.191	2.300	4.975%	3.502	3.677	4.997%

Territorial Multipliers for Farm and Ranch Personal Property

	Territory 1			Territories 8, 9, 10		
Construction	Current	Proposed	Change	Current	Proposed	Change
Frame	2.633	2.764	4.975%	4.141	4.348	4.999%
Brick Veneer	2.537	2.663	4.966%	4.156	4.363	4.981%
Brick	2.144	2.251	4.991%	3.420	3.591	5.000%

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