TEXAS WINDSTORM INSURANCE ASSOCIATION
RESIDENTIAL PROPERTY RATE LEVEL REVIEW
2014

August 2014

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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 12/31/13. 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	+30%
Actual Industry Experience	+21%
Hurricane Simulation Models	+38%

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 50 years of actual insurance industry premiums and losses and 163 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 2% less than the corresponding indication from the prior TWIA residential rate study. A 5% rate increase, effective January 1, 2014, was offset by increases in non-catastrophe loss provisions.

   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 the catastrophe reserve trust fund. The provision for the catastrophe trust fund is 20% of TWIA premium. The 20% provision is necessary to rebuild the fund, which was completely depleted in order to pay losses associated with 2008 hurricanes. The provision has been increased from 15% to reflect a greater need for contributions and to retain the savings resulting from the decision not to purchase catastrophe reinsurance.

   The provision for reinsurance expense is 15.4% 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 0.121 is equal to the weighted average of the nine hurricane years included in the analysis. For non-hurricane losses, the indicated ratio of 0.183 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 2004 - 2013 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 industry paid loss as of

9/30/13, 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 2004 - 2013 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 2004 - 2013 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 2013 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 50 and 163 years, respectively. The other method is based on hurricane simulation models. The "50/163-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 50-year period is insufficient to measure long-term hurricane intensity.
- A 50-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 50/163-Year Industry Hurricane Experience

In Exhibit 6, Texas insurance industry seacoast dwelling extended coverage experience for the 1964 - 2013 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 (1980 - 2013), 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 50 years of loss ratios by separating the 50 years into the thirteen hurricane years and thirty-seven non-hurricane years. The 37 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: 99.2%.

The 50-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 50-year period is 0.280, while the annual frequency during the most recent 163-year period is 0.387. The 50-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 50-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 163-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 38.4%.

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 v1.5.2 and RMS RiskLink v13.0. Both models were run using exposure data provided by TWIA as of 12/31/2013. 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%	60.6%
Category 1	34.8%	12.2%
Category 2	22.4%	6.6%
Category 3	19.3%	8.2%
Category 4	7.6%	9.9%
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 50.7% and 44.2%. The average of these loss ratios is 47.5%.

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 20.2% 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 61.9%.

As stated above, the expenses include a provision for an annual contribution to the catastrophe reserve trust fund and for the projected net cost of TWIA's purchasing of reinsurance. The 20% provision for the trust fund contribution is intended to permit the redevelopment of the catastrophe reserve trust fund to reduce the potential for future year surcharges on TWIA and coastal insurance policies and assessments to TWIA members. The 15.4% provision for reinsurance expense reflects the estimate 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 2% lower those shown in the prior (June 2013) study. The reasons for the higher 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)		**+32%**
TWIA Rate Level	-5%	
Change in Experience Period	+3%	
Current Rate Indication (Combined Method)		**+30%**

These reasons are discussed below:

TWIA Rate Level

The TWIA rate level increased 5% as a result of the most recent filing.

Change in experience Period

The indicated rate change increased approximately 3% as a result of increases in the experience for the non-hurricane loss provision.

FINANCIAL ANALYSIS

In recognition of recent changes to TWIA funding, a financial analysis was completed in order to determine whether projected net premium income would be sufficient to cover ongoing costs and the potentially sizable fixed premium income requirements of any public securities issued.

This analysis is shown on Exhibit 13. Projected written and earned premiums for 2015 are compared to projected ongoing costs, including non-catastrophe losses and loss adjustment expenses, general operating expenses, reinsurance, commissions, and premium taxes. This comparison is made assuming both current and proposed rate levels. The resulting net premium income is compared to current estimates of the net required premium and net debt service for $1 billion in Class 1 public securities.

Current and proposed rate levels each result in projected net premium income slightly above the high end of the range of estimated costs. Current and proposed rate levels should result in sufficient net required premium to issue the entire $1 billion of Class 1 public securities.

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 – 50/163-Year Method
7	Hurricane Loss Ratio – AIR Model
8	Hurricane Loss Ratio – RMS Model
9	Texas Hurricanes 1899 – 2013
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
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						
Hurricane Projection Method	Hurricane	Non-Hurricane	Fixed Expenses	Total	Variable Permissible LLAE Ratio	Indicated Rate Change	Proposed Rate Change
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Using Experience and Models	48.1%	12.0%	20.2%	80.3%	61.9%	+30%	+5.0%
Using Actual Industry Experience	43.0%	12.0%	20.2%	75.2%	61.9%	+21%	
Using Hurricane Models	53.2%	12.0%	20.2%	85.4%	61.9%	+38%	

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

	2013 Written Premium		Indicated Non-Hurricane
Territory	Amount	Share	Loss & LAE Ratio
(1)	(2)	(3)	(4)
Tier 1 - Territory 8	110,696,136	31.0%	12.1%
Tier 1 - Territory 9	59,923,935	16.8%	15.0%
Tier 1 - Territory 10	182,498,829	51.1%	10.9%
Tier 2	3,859,128	1.1%	10.9%
Total / Average	356,978,028	100.0%	12.0%

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)
2004	565,137	0.183	1.078	720,705	48,658,914	1.5%
2005	4,891,222	0.183	1.034	5,983,050	56,774,192	10.5%
2006	684,266	0.183	0.981	794,106	67,257,959	1.2%
2007	1,295,331	0.183	0.991	1,518,585	87,786,233	1.7%
2008	433,542	0.183	1.094	561,091	103,365,985	0.5%
2009	3,455,539	0.183	1.108	4,529,396	104,664,284	4.3%
2010	1,291,280	0.183	1.115	1,703,256	107,722,735	1.6%
2011	1,331,156	0.183	1.115	1,755,855	109,434,849	1.6%
2012	11,270,363	0.183	1.072	14,292,804	111,361,422	12.8%
2013	64,078,812	0.183	1.036	78,534,223	113,963,305	68.9%
Total	89,296,648			110,393,071	910,989,878	12.1%

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)
2004	425,169	0.183	1.078	542,207	19,905,158	2.7%
2005	544,286	0.183	1.034	665,783	22,289,304	3.0%
2006	432,666	0.183	0.981	502,119	26,074,626	1.9%
2007	488,076	0.183	0.991	572,197	40,323,407	1.4%
2008	481,029	0.183	1.094	622,549	54,433,467	1.1%
2009	517,145	0.183	1.108	677,855	56,934,419	1.2%
2010	3,378,976	0.183	1.115	4,457,021	59,635,386	7.5%
2011	19,551,268	0.183	1.115	25,789,002	59,939,211	43.0%
2012	21,727,305	0.183	1.072	27,554,047	60,806,619	45.3%
2013	6,460,435	0.183	1.036	7,917,832	61,776,208	12.8%
Total	54,006,355			69,300,612	462,117,805	15.0%

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)
2004	434,303	0.183	1.078	553,855	29,817,437	1.9%
2005	930,112	0.183	1.034	1,137,733	33,912,746	3.4%
2006	814,136	0.183	0.981	944,824	40,655,194	2.3%
2007	3,251,580	0.183	0.991	3,812,000	87,184,669	4.4%
2008	1,392,033	0.183	1.094	1,801,572	139,668,515	1.3%
2009	1,959,199	0.183	1.108	2,568,048	150,892,559	1.7%
2010	6,784,526	0.183	1.115	8,949,095	160,100,277	5.6%
2011	58,333,820	0.183	1.115	76,944,934	166,749,777	46.1%
2012	19,797,643	0.183	1.072	25,106,896	180,732,770	13.9%
2013	5,199,295	0.183	1.036	6,372,194	186,326,101	3.4%
Total	98,896,647			128,191,151	1,176,040,045	10.9%

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)
2004	2,836	0.183	1.078	3,617	992,830	0.4%
2005	34,018	0.183	1.034	41,612	1,536,818	2.7%
2006	31,341	0.183	0.981	36,372	1,842,684	2.0%
2007	65,115	0.183	0.991	76,338	2,385,836	3.2%
2008	486,688	0.183	1.094	629,873	2,726,825	23.1%
2009	553,909	0.183	1.108	726,044	2,871,983	25.3%
2010	186,712	0.183	1.115	246,282	3,115,367	7.9%
2011	56,720	0.183	1.115	74,816	3,350,338	2.2%
2012	277,181	0.183	1.072	351,514	3,720,186	9.4%
2013	574,411	0.183	1.036	703,991	3,950,934	17.8%
Total	2,268,931			2,890,459	26,493,801	10.9%

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)
2004	565,137	1.000	565,137
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	1.001	433,542
2009	3,441,772	1.004	3,455,539
2010	1,264,721	1.021	1,291,280
2011	1,276,276	1.043	1,331,156
2012	10,542,903	1.069	11,270,363
2013	52,609,862	1.218	64,078,812
Total	77,004,599		89,296,648

Notes:
(2) Exhibit 2, Sheet 4a, as of 12/31/13
(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)
2004	425,169	1.000	425,169
2005	544,286	1.000	544,286
2006	432,666	1.000	432,666
2007	488,076	1.000	488,076
2008	480,548	1.001	481,029
2009	515,085	1.004	517,145
2010	3,309,477	1.021	3,378,976
2011	18,745,223	1.043	19,551,268
2012	20,324,888	1.069	21,727,305
2013	5,304,134	1.218	6,460,435
Total	50,569,552		54,006,355

Notes:
(2) Exhibit 2, Sheet 4b, as of 12/31/13
(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)
2004	434,303	1.000	434,303
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	1.001	1,392,033
2009	1,951,393	1.004	1,959,199
2010	6,644,981	1.021	6,784,526
2011	55,928,878	1.043	58,333,820
2012	18,519,778	1.069	19,797,643
2013	4,268,715	1.218	5,199,295
Total	94,134,518		98,896,647

Notes:
(2) Exhibit 2, Sheet 4c, as of 12/31/13
(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)
2004	2,836	1.000	2,836
2005	34,018	1.000	34,018
2006	31,341	1.000	31,341
2007	65,115	1.000	65,115
2008	486,202	1.001	486,688
2009	551,702	1.004	553,909
2010	182,872	1.021	186,712
2011	54,382	1.043	56,720
2012	259,290	1.069	277,181
2013	471,602	1.218	574,411
Total	2,139,360		2,268,931

Notes:
(2) Exhibit 2, Sheet 4d, as of 12/31/13
(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 12/31/13
Tier 1 -- Territory 8 (Galveston County)

Accident Year	Paid Loss Excluding Expense Non-Hurricane	Hurricane	Total
(1)	(2)	(3)	(4)
2004	565,137	0	565,137
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	1,047,136,049	1,047,569,158
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	10,542,903	0	10,542,903
2013	52,609,862	0	52,609,862
Total	77,004,599	1,077,688,236	1,154,692,835

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 12/31/13
Tier 1 -- Territory 9 (Nueces County)

Accident Year	Paid Loss Excluding Expense Non-Hurricane	Hurricane	Total
(1)	(2)	(3)	(4)
2004	425,169	0	425,169
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	515,085	0	515,085
2010	3,309,477	192,655	3,502,132
2011	18,745,223	0	18,745,223
2012	20,324,888	0	20,324,888
2013	5,304,134	0	5,304,134
Total	50,569,552	1,146,187	51,715,739

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 12/31/13
Tier 1 -- Territory 10 (Other Tier 1)

Accident Year	Paid Loss Excluding Expense Non-Hurricane	Hurricane	Total
(1)	(2)	(3)	(4)
2004	434,303	0	434,303
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	690,271,738	691,662,380
2009	1,951,393	0	1,951,393
2010	6,644,981	1,297,770	7,942,751
2011	55,928,878	0	55,928,878
2012	18,519,778	0	18,519,778
2013	4,268,715	0	4,268,715
Total	94,134,518	810,242,373	904,376,891

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 12/31/13
Tier 2 -- (Territories 1 and 11)

Accident Year	Paid Loss Excluding Expense Non-Hurricane	Hurricane	Total
(1)	(2)	(3)	(4)
2004	2,836	0	2,836
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	438,257,527	438,743,729
2009	551,702	0	551,702
2010	182,872	206,291	389,163
2011	54,382	0	54,382
2012	259,290	0	259,290
2013	471,602	0	471,602
Total	2,139,360	469,151,601	471,290,961

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)
2005 / 3	1,221.57
2006 / 3	1,291.49
2007 / 3	1,455.90
2008 / 3	1,502.61
2009 / 3	1,512.29
2010 / 3	1,519.17
2011 / 3	1,490.31
2012 / 3	1,479.48
2013 / 3	1,475.26

(3) Current Average Earned Date	7/1/2013
(4) Current Average Accident Date	7/1/2013
(5) Prospective Average Earned / Accident Date	1/1/2016
(6) Premium Trend Length	2.500
(7) Loss Trend Length	2.500
(8) Selected Premium Trend	0.0%
(9) Selected Loss Trend	1.3%

Accident Year	Current Premium Trend	Current Loss Trend	Prospective Premium Trend	Prospective Loss Trend	Net Trend Factor
(10)	(11)	(12)	(13)	(14)	(15)
2004	1.207	1.259	1.000	1.033	1.078
2005	1.207	1.208	1.000	1.033	1.034
2006	1.208	1.147	1.000	1.033	0.981
2007	1.142	1.096	1.000	1.033	0.991
2008	1.013	1.073	1.000	1.033	1.094
2009	0.982	1.053	1.000	1.033	1.108
2010	0.976	1.053	1.000	1.033	1.115
2011	0.971	1.048	1.000	1.033	1.115
2012	0.990	1.027	1.000	1.033	1.072
2013	0.997	1.000	1.000	1.033	1.036

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 2012 / 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

Months of Development

Accident Year	15	27	39	51	63	75	87	99	111
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2004	30,571	32,466	32,708	33,429	33,493	33,527	33,575	33,579	33,581
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	
2007	53,874	59,731	61,175	61,738	61,853	61,978	61,980		
2008	435,381	557,638	625,922	688,372	756,380	774,976			
2009	114,845	136,583	139,262	140,625	140,941				
2010	63,706	70,824	72,510	73,282					
2011	137,269	154,006	156,577						
2012	162,844	196,780							
2013	123,343								

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)
2004	1.062	1.007	1.022	1.002	1.001	1.001	1.000	1.000	
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		
2007	1.109	1.024	1.009	1.002	1.002	1.000			
2008	1.281	1.122	1.100	1.099	1.025				
2009	1.189	1.020	1.010	1.002					
2010	1.112	1.024	1.011						
2011	1.122	1.017							
2012	1.208								
Average	1.154	1.030	1.026	1.021	1.006	1.001	1.000	1.000	
Avg 5 Year	1.182	1.041	1.026	1.025	1.006	1.001	1.000	1.000	
Prior	1.125	1.020	1.016	1.012	1.001	1.001	1.000	1.000	1.000
Selected	1.139	1.025	1.021	1.017	1.003	1.001	1.000	1.000	1.000
Cumulative	1.218	1.069	1.043	1.021	1.004	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)
2004 / 2	90,026		19,533,071	1.587	30,992,822	26,459,326						
2004 / 3	92,889		22,935,131	1.587	36,390,818	27,267,789						
2004 / 4	94,103		15,411,121	1.587	24,452,588	27,987,904						
2005 / 1	95,514		14,585,888	1.587	23,143,203	28,535,930	110,250,949					
2005 / 2	95,480	93,815	20,801,454	1.587	33,005,346	29,010,443	112,802,066	1,202.39	1,315.49			
2005 / 3	98,519	95,200	25,464,039	1.587	40,403,398	29,769,561	115,303,837	1,211.17	1,322.31			
2005 / 4	99,741	96,609	17,243,077	1.587	27,359,324	30,698,761	118,014,694	1,221.57	1,329.16			
2006 / 1	100,819	97,977	17,187,974	1.587	27,271,893	31,473,633	120,952,397	1,234.50	1,336.05			
2006 / 2	107,426	100,133	31,107,333	1.587	49,357,525	33,587,005	125,528,960	1,253.62	1,342.98			
2006 / 3	119,972	104,308	40,282,453	1.572	63,327,101	38,952,942	134,712,341	1,291.49	1,349.94			
2006 / 4	131,781	110,995	31,080,816	1.539	47,832,639	44,118,575	148,132,155	1,334.59	1,356.94			
2007 / 1	147,831	120,876	37,520,115	1.477	55,415,132	50,213,222	166,871,743	1,380.52	1,363.98			
2007 / 2	168,519	134,389	57,350,584	1.477	84,703,637	58,358,974	191,643,713	1,426.04	1,371.05			
2007 / 3	192,867	151,138	66,527,259	1.477	98,257,078	67,350,892	220,041,663	1,455.90	1,378.16			
2007 / 4	201,251	168,933	42,163,238	1.477	62,272,768	73,866,012	249,789,100	1,478.63	1,385.30			
2008 / 1	204,043	184,644	43,831,073	1.398	61,289,044	75,929,100	275,504,978	1,492.09	1,392.48	1,531.77		
2008 / 2	207,335	196,522	66,980,792	1.365	91,429,687	77,517,283	294,663,286	1,499.39	1,399.70	1,529.08		
2008 / 3	214,272	204,050	77,031,575	1.365	105,149,141	79,295,592	306,607,986	1,502.61	1,406.96	1,526.39		
2008 / 4	212,579	208,141	45,077,819	1.365	61,531,832	79,903,307	312,645,282	1,502.08	1,414.25	1,523.71		
2009 / 1	212,647	210,633	50,763,638	1.258	63,857,912	80,131,874	316,848,055	1,504.27	1,421.59	1,521.03	1,532.42	
2009 / 2	213,310	212,455	78,390,421	1.216	95,284,047	80,868,825	320,199,598	1,507.14	1,428.96	1,518.36	1,528.87	
2009 / 3	214,655	213,250	86,983,368	1.216	105,728,827	81,591,128	322,495,134	1,512.29	1,436.36	1,515.69	1,525.33	
2009 / 4	214,900	213,588	53,398,560	1.216	64,906,283	81,961,645	324,553,472	1,519.53	1,443.81	1,513.02	1,521.80	
2010 / 1	215,154	214,191	51,747,346	1.216	62,899,222	82,173,897	326,595,495	1,524.78	1,451.30	1,510.36	1,518.27	1,502.02
2010 / 2	218,549	215,160	80,792,227	1.216	98,203,457	82,446,785	328,173,454	1,525.26	1,458.82	1,507.71	1,514.75	1,500.02
2010 / 3	225,655	217,190	89,415,866	1.216	108,685,544	83,366,482	329,948,809	1,519.17	1,466.38	1,505.06	1,511.25	1,498.02
2010 / 4	227,923	220,192	56,161,564	1.216	68,264,732	84,126,136	332,113,299	1,508.29	1,473.99	1,502.41	1,507.75	1,496.02
2011 / 1	228,987	223,549	57,880,211	1.158	67,003,579	85,016,168	334,955,570	1,498.35	1,481.63	1,499.77	1,504.25	1,494.03
2011 / 2	230,886	226,821	89,007,580	1.158	103,037,400	86,017,690	338,526,476	1,492.49	1,489.31	1,497.13	1,500.77	1,492.04
2011 / 3	237,410	229,832	96,546,975	1.158	111,765,192	87,360,765	342,520,758	1,490.31	1,497.03	1,494.50	1,497.29	1,490.05
2011 / 4	241,390	232,985	64,055,335	1.158	74,152,057	88,142,331	346,536,954	1,487.38	1,504.79	1,491.87	1,493.83	1,488.07
2012 / 1	244,496	236,607	66,350,322	1.103	73,151,230	89,554,143	351,074,929	1,483.79	1,512.59	1,489.25	1,490.37	1,486.09
2012 / 2	243,404	240,110	93,957,382	1.103	103,588,013	90,796,731	355,853,971	1,482.04	1,520.43	1,486.63	1,486.92	1,484.11
2012 / 3	252,608	243,575	109,188,970	1.103	120,380,840	91,871,559	360,364,765	1,479.48	1,528.32	1,484.02	1,483.47	1,482.13
2012 / 4	252,764	246,896	66,296,611	1.103	73,092,014	92,921,577	365,144,011	1,478.94	1,536.24	1,481.41	1,480.04	1,480.15
2013 / 1	252,055	249,263	69,051,453	1.050	72,504,026	92,718,872	368,308,739	1,477.59	1,544.20	1,478.81	1,476.61	1,478.18
2013 / 2	251,733	251,249	105,991,687	1.050	111,291,271	93,253,982	370,765,990	1,475.69	1,552.21	1,476.21	1,473.19	1,476.21
2013 / 3	252,635	252,293	108,302,997	1.050	113,718,147	93,304,972	372,199,403	1,475.26	1,560.26	1,473.61	1,469.78	1,474.25
2013 / 4	256,907	252,815	77,532,793	1.050	81,409,433	93,948,942	373,226,768	1,476.29	1,568.35	1,471.02	1,466.37	1,472.28
(14) Average Annual Change									2.1%	-0.7%	-0.9%	-0.5%
(15) Correlation Coefficient									50.1%	49.7%	77.3%	86.7%
(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 2011 / 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)
2004	1.302	1.309	1.108	1.259
2005	1.241	1.247	1.089	1.208
2006	1.175	1.174	1.065	1.147
2007	1.115	1.114	1.042	1.096
2008	1.095	1.088	1.026	1.073
2009	1.071	1.058	1.036	1.053
2010	1.067	1.057	1.040	1.053
2011	1.054	1.054	1.029	1.048
2012	1.032	1.033	1.007	1.027
2013	1.000	1.000	1.000	1.000
Factors to Adjust For Prospective Loss Costs				
(6) Fitted Trend	1.7%	1.4%	0.9%	1.3%
(7) Cost Factor	1.047	1.039	1.025	1.036

Notes:
(2) = Exhibit 3, Sheet 3b trended forward to 9/30/2013
(3) = Exhibit 3, Sheet 3c trended forward to 9/30/2013
(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 4/1/2013 to 1/1/2016)

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)
3/31/2004	1625.56	1712.13	1717.37						
6/30/2004	1652.06	1725.19	1729.06						
9/30/2004	1680.19	1738.25	1740.84						
12/31/2004	1705.73	1751.31	1752.69						
3/31/2005	1728.03	1764.37	1764.62						
6/30/2005	1748.11	1777.43	1776.64						
9/30/2005	1762.69	1790.49	1788.73						
12/31/2005	1780.52	1803.55	1800.91						
3/31/2006	1803.56	1816.61	1813.17						
6/30/2006	1829.79	1829.67	1825.52						
9/30/2006	1862.05	1842.73	1837.95						
12/31/2006	1896.38	1855.79	1850.46						
3/31/2007	1923.66	1868.85	1863.06						
6/30/2007	1945.15	1881.91	1875.74						
9/30/2007	1962.77	1894.97	1888.52						
12/31/2007	1973.20	1908.03	1901.37						
3/31/2008	1982.41	1921.09	1914.32						
6/30/2008	1990.80	1934.14	1927.35						
9/30/2008	1998.73	1947.20	1940.48						
12/31/2008	2006.58	1960.26	1953.69						
3/31/2009	2017.74	1973.32	1966.99	2006.55	2008.06				
6/30/2009	2034.78	1986.38	1980.38	2015.41	2016.54				
9/30/2009	2043.22	1999.44	1993.86	2024.26	2025.04				
12/31/2009	2046.48	2012.50	2007.44	2033.12	2033.59				
3/31/2010	2047.16	2025.56	2021.11	2041.98	2042.17	2024.25	2025.53		
6/30/2010	2046.06	2038.62	2034.87	2050.83	2050.79	2034.94	2035.81		
9/30/2010	2050.43	2051.68	2048.72	2059.69	2059.44	2045.64	2046.13		
12/31/2010	2057.86	2064.74	2062.67	2068.55	2068.13	2056.34	2056.51		
3/31/2011	2065.01	2077.80	2076.71	2077.41	2076.86	2067.03	2066.94	2049.90	2050.83
6/30/2011	2070.12	2090.86	2090.85	2086.26	2085.62	2077.73	2077.42	2063.10	2063.59
9/30/2011	2075.68	2103.92	2105.09	2095.12	2094.42	2088.43	2087.96	2076.30	2076.43
12/31/2011	2083.08	2116.98	2119.42	2103.98	2103.26	2099.13	2098.55	2089.50	2089.35
3/31/2012	2092.60	2130.04	2133.85	2112.83	2112.13	2109.82	2109.19	2102.71	2102.35
6/30/2012	2103.60	2143.10	2148.38	2121.69	2121.05	2120.52	2119.89	2115.91	2115.43
9/30/2012	2121.39	2156.16	2163.01	2130.55	2130.00	2131.22	2130.64	2129.11	2128.60
12/31/2012	2139.89	2169.22	2177.74	2139.40	2138.98	2141.91	2141.45	2142.31	2141.84
3/31/2013	2155.38	2182.28	2192.56	2148.26	2148.01	2152.61	2152.31	2155.51	2155.17
6/30/2013	2172.48	2195.34	2207.49	2157.12	2157.07	2163.31	2163.23	2168.71	2168.58
9/30/2013	2188.26	2208.40	2222.52	2165.97	2166.18	2174.01	2174.20	2181.91	2182.07
12/31/2013	2202.59	2221.46	2237.65	2174.83	2175.32	2184.70	2185.23	2195.11	2195.65
Annual Trend		2.4%	2.8%	1.6%	1.7%	2.0%	2.0%	2.4%	2.5%
R-Squared		0.929	0.912	0.914	0.919	0.941	0.944	0.971	0.973

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)

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)
3/31/2004	1616.44	1711.79	1716.34						
6/30/2004	1644.67	1725.14	1728.30						
9/30/2004	1672.98	1738.48	1740.34						
12/31/2004	1698.09	1751.83	1752.46						
3/31/2005	1720.35	1765.18	1764.67						
6/30/2005	1740.42	1778.53	1776.96						
9/30/2005	1756.55	1791.88	1789.34						
12/31/2005	1776.85	1805.23	1801.81						
3/31/2006	1803.22	1818.57	1814.36						
6/30/2006	1831.27	1831.92	1827.00						
9/30/2006	1865.04	1845.27	1839.72						
12/31/2006	1900.04	1858.62	1852.54						
3/31/2007	1925.97	1871.97	1865.45						
6/30/2007	1947.53	1885.31	1878.44						
9/30/2007	1966.27	1898.66	1891.53						
12/31/2007	1977.64	1912.01	1904.70						
3/31/2008	1991.21	1925.36	1917.97						
6/30/2008	2002.80	1938.71	1931.33						
9/30/2008	2013.23	1952.06	1944.79						
12/31/2008	2024.37	1965.40	1958.34						
3/31/2009	2036.37	1978.75	1971.98	2031.95	2033.08				
6/30/2009	2055.55	1992.10	1985.72	2039.16	2040.01				
9/30/2009	2068.58	2005.45	1999.55	2046.37	2046.97				
12/31/2009	2075.34	2018.80	2013.48	2053.57	2053.95				
3/31/2010	2075.01	2032.14	2027.51	2060.78	2060.95	2043.07	2044.14		
6/30/2010	2072.68	2045.49	2041.63	2067.98	2067.98	2052.10	2052.84		
9/30/2010	2070.90	2058.84	2055.85	2075.19	2075.04	2061.13	2061.58		
12/31/2010	2070.54	2072.19	2070.17	2082.39	2082.11	2070.15	2070.35		
3/31/2011	2073.35	2085.54	2084.60	2089.60	2089.21	2079.18	2079.16	2052.64	2053.58
6/30/2011	2074.41	2098.89	2099.12	2096.81	2096.34	2088.21	2088.00	2065.54	2066.05
9/30/2011	2078.04	2112.23	2113.74	2104.01	2103.49	2097.23	2096.89	2078.45	2078.59
12/31/2011	2083.41	2125.58	2128.47	2111.22	2110.66	2106.26	2105.81	2091.35	2091.22
3/31/2012	2089.91	2138.93	2143.29	2118.42	2117.86	2115.28	2114.77	2104.25	2103.92
6/30/2012	2099.29	2152.28	2158.22	2125.63	2125.08	2124.31	2123.77	2117.15	2116.69
9/30/2012	2118.77	2165.63	2173.26	2132.83	2132.33	2133.34	2132.81	2130.05	2129.54
12/31/2012	2139.83	2178.97	2188.40	2140.04	2139.60	2142.36	2141.88	2142.95	2142.48
3/31/2013	2157.69	2192.32	2203.64	2147.25	2146.90	2151.39	2150.99	2155.85	2155.49
6/30/2013	2175.59	2205.67	2219.00	2154.45	2154.22	2160.42	2160.15	2168.75	2168.58
9/30/2013	2189.58	2219.02	2234.45	2161.66	2161.56	2169.44	2169.34	2181.66	2181.74
12/31/2013	2203.33	2232.37	2250.02	2168.86	2168.93	2178.47	2178.57	2194.56	2194.99
Annual Trend		2.4%	2.8%	1.3%	1.4%	1.7%	1.7%	2.4%	2.5%
R-Squared		0.909	0.890	0.810	0.815	0.836	0.839	0.944	0.946

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

		Fitted Trends							
Calendar Year	Modified	All Years		5 Years		4 Years		3 Years	
Ending	CPI	Linear	Exponential	Linear	Exponential	Linear	Exponential	Linear	Exponential
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
9/30/2003	164.70	167.60	167.69						
12/31/2003	164.88	168.07	168.13						
3/31/2004	165.75	168.54	168.58						
6/30/2004	166.66	169.01	169.03						
9/30/2004	167.76	169.48	169.48						
12/31/2004	168.68	169.95	169.94						
3/31/2005	170.03	170.41	170.39						
6/30/2005	170.63	170.88	170.85						
9/30/2005	170.66	171.35	171.30						
12/31/2005	171.45	171.82	171.76						
3/31/2006	171.94	172.29	172.22						
6/30/2006	172.99	172.76	172.68						
9/30/2006	174.54	173.23	173.14						
12/31/2006	175.48	173.70	173.60						
3/31/2007	176.25	174.17	174.06						
6/30/2007	177.33	174.63	174.53						
9/30/2007	178.34	175.10	174.99						
12/31/2007	179.24	175.57	175.46						
3/31/2008	180.31	176.04	175.93						
6/30/2008	180.58	176.51	176.40						
9/30/2008	181.04	176.98	176.87						
12/31/2008	181.06	177.45	177.34						
3/31/2009	180.55	177.92	177.82	177.55	177.59				
6/30/2009	180.07	178.38	178.29	177.98	178.01				
9/30/2009	179.30	178.85	178.77	178.41	178.43				
12/31/2009	178.80	179.32	179.24	178.84	178.85				
3/31/2010	178.46	179.79	179.72	179.27	179.27	177.47	177.51		
6/30/2010	178.56	180.26	180.20	179.70	179.69	178.09	178.11		
9/30/2010	178.59	180.73	180.68	180.13	180.12	178.71	178.72		
12/31/2010	178.72	181.20	181.17	180.56	180.54	179.33	179.33		
3/31/2011	178.97	181.67	181.65	180.99	180.97	179.95	179.94	179.56	179.57
6/30/2011	179.61	182.13	182.14	181.42	181.40	180.57	180.55	180.24	180.24
9/30/2011	180.52	182.60	182.62	181.85	181.82	181.19	181.17	180.92	180.91
12/31/2011	181.55	183.07	183.11	182.28	182.25	181.81	181.79	181.60	181.59
3/31/2012	182.78	183.54	183.60	182.71	182.68	182.43	182.41	182.28	182.26
6/30/2012	183.87	184.01	184.09	183.13	183.11	183.05	183.03	182.96	182.94
9/30/2012	184.57	184.48	184.58	183.56	183.55	183.67	183.65	183.64	183.62
12/31/2012	185.03	184.95	185.07	183.99	183.98	184.29	184.28	184.32	184.31
3/31/2013	185.38	185.42	185.57	184.42	184.41	184.91	184.91	185.00	184.99
6/30/2013	185.51	185.89	186.06	184.85	184.85	185.53	185.54	185.68	185.68
9/30/2013	185.82	186.35	186.56	185.28	185.29	186.15	186.17	186.35	186.37
12/31/2013	185.96	186.82	187.06	185.71	185.72	186.77	186.80	187.03	187.07
Annual Trend		1.0%	1.1%	0.9%	0.9%	1.3%	1.4%	1.5%	1.5%
R-Squared		0.877	0.872	0.774	0.773	0.948	0.948	0.930	0.928

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)
1977	72	132	1.833	
1978	129	147	1.140	
1979	1,423	488	0.343	
1980	12,911	1,318	0.102	H
1981	2,512	543	0.216	
1982	796	565	0.710	
1983	148,999	9,127	0.061	H
1984	999	324	0.324	
1985	512	297	0.580	
1986	881	505	0.573	H
1987	1,897	1,056	0.557	
1988	1,160	357	0.308	
1989	12,296	3,528	0.287	H
1990	335	225	0.672	
1991	1,217	729	0.599	
1992	489	554	1.133	
1993	3,375	1,375	0.407	
1994	679	507	0.747	
1995	2,977	903	0.303	
1996	1,166	582	0.499	
1997	2,964	1,343	0.453	
1998	22,401	4,732	0.211	
1999	8,773	2,388	0.272	H
2000	6,227	1,885	0.303	
2001	24,605	1,880	0.076	
2002	5,167	5,226	1.011	
2003	155,001	5,122	0.033	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	4,949	0.314	H
2008	2,632,000	332,990	0.127	H
2009	10,359	2,232	0.215	
2010	18,763	4,322	0.230	
2011	100,038	15,065	0.151	
2012	72,764	15,735	0.216	
2013	87,395	14,690	0.168	
All Years Total	3,521,451	458,633	0.130	
Hurricane Years Total	3,141,587	380,158	0.121	
Non-Hurricane Years				
Total	379,864	78,475	0.207	
10 Year	298,762	54,625	0.183	

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 12/31/13	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	0	0.000	4,276
2007	15,745	1.000	15,745
2008	2,632,000	1.000	2,632,000
2009	10,453	0.991	10,359
2010	18,522	1.013	18,763
2011	97,503	1.026	100,038
2012	69,764	1.043	72,764
2013	77,204	1.132	87,395

Notes:

(2) Exhibit 4, Sheet 3

(3) Exhibit 4, Sheet 3

(4) 2002 - 2009: (2) * (3); 1977 - 2001: 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)
2004	4,828	5,438	5,169	5,167	5,169	5,167	5,167
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	
2009	8,267	10,825	10,581	10,732	10,453		
2010	15,215	18,166	18,173	18,522			
2011	94,870	96,967	97,503				
2012	62,722	69,764					
2013	77,204						

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	1.126	0.951	1.000	1.000	1.000	1.000	
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		
2009	1.309	0.977	1.014	0.974			
2010	1.194	1.000	1.019				
2011	1.022	1.006					
2012	1.112						
Average	1.072	1.018	1.008	1.021	0.991	1.000	
Avg x hi / lo	1.058	0.985	1.012	1.007	0.991	1.000	
Avg 3 Year	1.109	0.994	1.027	1.033	0.985	1.000	
Avg 5 Year	1.114	1.049	1.010	1.026	0.991	1.000	
Prior	1.074	1.039	1.005	1.023	0.997	1.000	1.000
Selected	1.085	1.017	1.013	1.022	0.991	1.000	1.000
Cumulative	1.132	1.043	1.026	1.013	0.991	1.000	1.000

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

Accident Year	Incurred ALAE at 12/31/13	Development Factor	Indicated Ultimate ALAE	Incurred ULAE	Incurred LAE
(1)	(2)	(3)	(4)	(5)	(6)
1977					132
1978					147
1979					488
1980					1,318
1981					543
1982					565
1983					9,127
1984					324
1985			160	137	297
1986			270	235	505
1987			652	404	1,056
1988			235	122	357
1989			2,727	801	3,528
1990			119	106	225
1991			403	326	729
1992			270	284	554
1993			806	569	1,375
1994			192	315	507
1995			698	205	903
1996			355	227	582
1997			892	451	1,343
1998			3,920	812	4,732
1999			1,757	631	2,388
2000			1,209	676	1,885
2001			1,207	673	1,880
2002			3,643	1,583	5,226
2003	3,239	1.000	3,239	1,883	5,122
2004	844	1.000	844	627	1,471
2005	15,229	1.000	15,229	5,002	20,231
2006	860	1	860	250	1,110
2007	2,490	1	2,490	2,459	4,949
2008	92,426	0.999	92,334	240,656	332,990
2009	223	0.964	215	2,017	2,232
2010	316	0.963	304	4,018	4,322
2011	609	0.948	577	14,488	15,065
2012	679	0.976	663	15,072	15,735
2013	802	1.122	900	13,790	14,690

Notes:

(2) Exhibit 4, Sheet 5
(3) Exhibit 4, Sheet 5
(4) 2002 - 2009: (2) * (3); 1986 - 2001: from TWIA's annual statements
(5) From TWIA's annual statements
(6) 1986 - 2009: (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)

Accident Year	Months of Development 0	12	24	36	48	60	72
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1890	2,882	3,017	3,133	3,235	3,254	3,255	3,239
1891	814	837	839	844	847	845	844
1892	12,902	16,742	18,549	16,151	15,253	15,243	15,229
1893	704	891	899	879	867	860	860
1894	2,660	3,107	2,921	2,519	2,497	2,490	2,490
1895	167,316	139,787	106,761	111,632	120,296	92,426	
1896	7,335	359	226	231	223		
1897	391	312	322	316			
1898	515	592	609				
1899	516	679					
1900	802						

Accident Year	Development Factors 0 - 12	12 - 24	24 - 36	36 - 48	48 - 60	60 - 72	72 - Ult
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1890	1.047	1.038	1.033	1.006	1.000	0.995	
1891	1.028	1.002	1.006	1.004	0.998	0.999	
1892	1.298	1.108	0.871	0.944	0.999	0.999	
1893	1.266	1.009	0.978	0.986	0.992	1.000	
1894	1.168	0.940	0.862	0.991	0.997	1.000	
1895	0.835	0.764	1.046	1.078	0.768		
1896	0.049	0.630	1.022	0.965			
1897	0.798	1.032	0.981				
1898	1.150	1.029					
1899	1.316						
Average	0.995	0.950	0.975	0.996	0.959	0.999	
Avg x hi / lo	1.074	0.973	0.982	0.990	0.997	0.999	
Avg 3 Year	1.088	0.897	1.016	1.011	0.919	1.000	
Avg 5 Year	0.830	0.879	0.978	0.993	0.951	0.999	
Prior	0.917	0.924	0.971	1.004	0.999	0.998	1.000
Selected	1.150	1.030	0.984	0.999	0.965	0.999	1.000
Cumulative	1.122	0.976	0.948	0.963	0.964	0.999	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	38.4%	0.121	43.0%
Hurricane Models			
AIR Model	50.7%	0.121	56.8%
RMS Model	44.2%	0.121	49.5%
Average of Models	47.5%	0.121	53.2%

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 - 2013 -- Hurricane Years Only

Accident Year	Earned Premium at Current TWIA Rate Level	Incurred Loss Ratio
(1)	(2)	(3)
1968	29,353,953	38.1%
1970	29,944,148	69.4%
1971	29,840,979	76.2%
1980	50,683,939	74.8%
1983	65,085,673	464.9%
1986	82,918,446	11.8%
1989	94,387,197	8.2%
1990	91,308,665	18.9%
1999	148,637,112	10.7%
2003	195,117,794	25.2%
2005	214,806,822	139.9%
2007	332,260,396	6.2%
2008	412,600,291	481.0%

(4)	Simple Average Loss Ratio for Hurricane Years	109.6%	
(5)	Selected Non-Hurricane Loss Ratio	10.4%	
(6)	Average Hurricane Loss Ratio for Hurricane Years	99.2%	
(7)	Historical Hurricane Frequency		
	(a) 50-Year (13/1/1963 - 12/31/2013)	0.280	(1 Hurricane Every 3.6 years)
	(a) 163-Year (1/1/1851 - 12/31/2013)	0.387	(1 Hurricane Every 2.6 years)
	Selected Frequency	0.387	(1 Hurricane Every 2.6 years)
(8)	Indicated Hurricane Loss Ratio	38.4%	

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 - 2013

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	19,659,076	1,278,741	6.5%	
1965		12,141,513	27,451,961	944,410	3.4%	
1966		13,011,528	29,419,065	1,178,131	4.0%	
1967		13,130,860	29,688,874	663,024	2.2%	
1968		12,982,730	29,353,953	11,171,683	38.1%	H
1969		12,499,176	28,260,637	3,218,757	11.4%	
1970		13,243,763	29,944,148	20,786,468	69.4%	H
1971	10,640,335	13,198,133	29,840,979	22,731,206	76.2%	H
1972	12,302,040	13,902,740	31,434,095	2,242,093	7.1%	
1973	12,935,382	12,724,690	28,770,524	4,933,261	17.1%	
1974	12,794,652	11,637,700	26,312,840	2,293,219	8.7%	
1975	13,633,616	12,392,309	28,019,011	3,062,897	10.9%	
1976	17,088,846	13,884,831	31,393,603	1,522,489	4.8%	
1977	23,643,216	17,474,220	39,509,211	972,383	2.5%	
1978	28,157,329	19,320,941	43,684,648	1,449,823	3.3%	
1979	32,867,536	21,563,567	48,755,225	3,940,899	8.1%	
1980	32,179,994	22,416,603	50,683,939		74.8%	H
1981	30,817,037	29,693,419	69,677,321		3.2%	
1982	28,140,159	32,398,474	63,624,899		2.4%	
1983	28,786,234	39,817,626	65,085,673		464.9%	H
1984	20,078,668	34,626,400	45,397,869		15.0%	
1985	30,043,452	53,801,222	67,928,245		6.2%	
1986	36,673,352		82,918,446		11.8%	
1987	41,598,709		94,054,681		2.8%	
1988	45,044,392		101,845,368		12.3%	
1989	41,745,774		94,387,197		8.2%	H
1990	40,384,195		91,308,665		18.9%	H
1991	46,237,137		104,542,166		84.9%	
1992	44,512,572		100,642,928		7.4%	
1993	50,741,120		114,725,672		11.6%	
1994	57,584,585		130,198,747		5.8%	
1995	60,740,049		137,333,253		8.0%	
1996	71,865,572		162,488,058		4.1%	
1997	79,154,547		178,968,431		5.2%	
1998	80,238,260		181,418,704		22.8%	
1999	71,026,552		148,637,112		10.7%	H
2000	75,114,174		155,273,790		6.6%	
2001	74,726,401		141,388,736		8.0%	
2002	86,289,350		150,057,722		19.8%	
2003	112,200,741		195,117,794		25.2%	H
2004	123,050,217		204,044,524		2.0%	
2005	135,380,924		214,806,822		139.9%	H
2006	154,699,767		244,870,648		2.4%	
2007	219,914,305		332,260,396		6.2%	H
2008	289,558,186		412,600,291		481.0%	H
2009	327,305,758		423,742,326		2.1%	
2010	355,219,215		431,887,910		4.4%	
2011	370,875,863		439,786,211		22.5%	
2012	406,981,851		459,628,180		14.6%	
2013	440,981,352		474,374,221		17.5%	
Total / Average	4,273,953,416	434,557,304	6,867,204,797		36.5%	
Average of Non-Hurricane Years					10.4%	
Selected					10.4%	

Notes: (2), (3) Provided by TDI. Accident years ending 9/30/xx as of 12/31/2013
(4) 1980 - 2004: Sum of Exhibit 6, Sheet 4 - Sheet 7, (4); 1971 - 1979: (3) * 2.3
(5) Provided by TDI. Accident years ending 9/30/xx as of 12/31/2013
(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)
1981	4.9%	1.9%	2.6%	4.9%	3.2%
1982	1.8%	2.2%	2.8%	3.8%	2.4%
1983	1217.9%	7.2%	164.9%	168.1%	464.9%
1984	3.7%	6.7%	24.1%	38.3%	15.0%
1985	1.9%	8.3%	8.0%	12.8%	6.2%
1986	1.2%	2.8%	21.1%	14.0%	11.8%
1987	0.6%	4.1%	3.7%	7.3%	2.8%
1988	5.6%	7.0%	18.3%	7.4%	12.3%
1989	6.3%	6.6%	9.6%	17.7%	8.2%
1990	33.4%	12.0%	12.2%	24.7%	18.9%
1991	67.7%	14.9%	119.8%	17.8%	84.9%
1992	1.4%	13.2%	8.9%	20.2%	7.4%
1993	14.4%	12.8%	9.3%	24.8%	11.6%
1994	2.7%	6.6%	7.4%	8.8%	5.8%
1995	3.3%	9.9%	9.9%	26.1%	8.0%
1996	1.5%	5.5%	5.1%	10.4%	4.1%
1997	2.0%	4.6%	7.2%	8.9%	5.2%
1998	20.4%	11.5%	28.2%	10.8%	22.8%
1999	2.5%	21.3%	12.1%	12.2%	10.7%
2000	1.0%	2.8%	11.2%	12.6%	6.6%
2001	5.8%	8.3%	8.5%	37.8%	8.0%
2002	28.2%	6.7%	19.1%	12.2%	19.8%
2003	5.9%	9.5%	42.3%	11.9%	25.2%
2004	1.5%	2.2%	2.2%	4.5%	2.0%
2005	59.2%	3.1%	236.0%	43.0%	139.9%
2006	1.2%	2.0%	3.2%	5.7%	2.4%
2007	3.1%	1.9%	9.6%	5.7%	6.2%
2008	804.5%	2.5%	442.1%	483.8%	481.0%
2009	3.4%	1.1%	1.5%	10.9%	2.1%
2010	1.3%	6.5%	5.5%	12.7%	4.4%
2011	1.2%	31.5%	32.8%	6.9%	22.5%
2012	9.5%	33.7%	10.5%	57.1%	14.6%
2013	46.4%	9.4%	2.6%	15.7%	17.5%
Average	71.7%	8.5%	39.5%	35.1%	44.2%

TWIA 2013 Written Premium by Territory / Tier

		Territory 8	Territory 9	Territory 10	Tier 2	Total
(7)	Amount	110,696,136	59,923,935	182,498,829	3,859,128	356,978,028
(8)	% Share	31.0%	16.8%	51.1%	1.1%	100.0%

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)
1981	3,358,441	2.261	7,593,435	373,017	4.9%
1982	2,947,993	2.261	6,665,412	117,400	1.8%
1983	4,317,605	2.261	9,762,105	118,889,570	1217.9%
1984	3,512,853	2.261	7,942,561	292,543	3.7%
1985	6,066,870	2.261	13,717,193	265,705	1.9%
1986	6,846,710	2.261	15,480,411	187,218	1.2%
1987	7,738,740	2.261	17,497,291	111,242	0.6%
1988	8,043,378	2.261	18,186,078	1,026,666	5.6%
1989	8,149,957	2.261	18,427,053	1,163,813	6.3%
1990	7,816,199	2.261	17,672,426	5,908,943	33.4%
1991	8,645,208	2.261	19,546,815	13,225,287	67.7%
1992	5,826,467	2.261	13,173,642	180,484	1.4%
1993	5,825,916	2.261	13,172,396	1,900,088	14.4%
1994	6,996,874	2.261	15,819,932	420,038	2.7%
1995	8,737,576	2.261	19,755,659	644,169	3.3%
1996	11,652,672	2.261	26,346,691	406,004	1.5%
1997	12,573,252	2.261	28,428,123	573,343	2.0%
1998	13,838,930	2.261	31,289,821	6,371,206	20.4%
1999	14,103,814	2.093	29,515,021	742,130	2.5%
2000	15,784,218	2.067	32,628,667	324,948	1.0%
2001	17,776,666	1.892	33,634,971	1,947,817	5.8%
2002	20,514,469	1.739	35,674,791	10,059,284	28.2%
2003	25,868,450	1.739	44,985,397	2,672,918	5.9%
2004	30,357,860	1.658	50,340,058	731,759	1.5%
2005	36,780,457	1.587	58,358,983	34,527,644	59.2%
2006	43,562,211	1.583	68,953,606	813,430	1.2%
2007	59,282,257	1.511	89,567,371	2,757,645	3.1%
2008	73,789,694	1.425	105,145,186	845,935,033	804.5%
2009	81,999,709	1.295	106,159,903	3,567,563	3.4%
2010	89,665,314	1.216	109,018,216	1,451,547	1.3%
2011	93,230,854	1.186	110,553,552	1,328,761	1.2%
2012	99,629,727	1.129	112,517,622	10,740,796	9.5%
2013	107,104,142	1.076	115,214,495	53,461,237	46.4%
Total	828,934,907		1,402,744,883	1,123,119,248	80.1%

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)
1981	2,545,487	2.261	5,755,346	109,799	1.9%
1982	2,223,376	2.261	5,027,053	111,420	2.2%
1983	2,331,938	2.261	5,272,512	377,010	7.2%
1984	1,632,317	2.261	3,690,669	249,086	6.7%
1985	2,505,564	2.261	5,665,080	467,721	8.3%
1986	2,977,992	2.261	6,733,240	189,449	2.8%
1987	3,639,667	2.261	8,229,287	335,212	4.1%
1988	3,971,251	2.261	8,978,999	626,491	7.0%
1989	3,702,536	2.261	8,371,434	550,215	6.6%
1990	3,519,306	2.261	7,957,151	955,271	12.0%
1991	4,065,190	2.261	9,191,395	1,367,254	14.9%
1992	3,907,712	2.261	8,835,337	1,170,578	13.2%
1993	4,552,395	2.261	10,292,965	1,312,776	12.8%
1994	5,710,806	2.261	12,912,132	856,369	6.6%
1995	6,908,552	2.261	15,620,236	1,552,987	9.9%
1996	8,568,168	2.261	19,372,628	1,061,115	5.5%
1997	8,425,344	2.261	19,049,703	882,561	4.6%
1998	8,803,621	2.261	19,904,987	2,289,890	11.5%
1999	8,465,256	2.093	17,715,223	3,778,386	21.3%
2000	8,437,094	2.067	17,440,910	485,581	2.8%
2001	8,894,552	1.892	16,829,252	1,394,445	8.3%
2002	10,534,795	1.739	18,320,075	1,227,528	6.7%
2003	13,881,847	1.739	24,140,619	2,295,803	9.5%
2004	15,458,506	1.658	25,633,628	569,877	2.2%
2005	17,471,646	1.587	27,721,991	872,451	3.1%
2006	19,888,512	1.583	31,481,061	621,501	2.0%
2007	29,704,042	1.511	44,878,739	832,164	1.9%
2008	40,565,108	1.425	57,802,460	1,468,028	2.5%
2009	46,363,445	1.295	60,023,857	633,808	1.1%
2010	51,529,115	1.216	62,650,895	4,097,970	6.5%
2011	52,931,755	1.186	62,766,705	19,751,863	31.5%
2012	56,334,273	1.129	63,621,558	21,426,386	33.7%
2013	60,101,696	1.076	64,652,836	6,094,796	9.4%
Total	520,552,864		776,539,964	80,015,791	10.3%

Notes:

(2) Provided by TDI. Accident years ending 9/30/xx as of 12/31/2013
(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 12/31/2013
(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)
1981	6,414,566	2.261	14,503,334	383,360	2.6%
1982	5,695,062	2.261	12,876,535	361,294	2.8%
1983	5,888,781	2.261	13,314,534	21,953,626	164.9%
1984	3,924,651	2.261	8,873,636	2,135,063	24.1%
1985	5,808,825	2.261	13,133,753	1,055,065	8.0%
1986	6,993,722	2.261	15,812,805	3,338,312	21.1%
1987	7,677,374	2.261	17,358,543	634,637	3.7%
1988	8,284,768	2.261	18,731,860	3,434,130	18.3%
1989	7,733,295	2.261	17,484,980	1,670,422	9.6%
1990	7,568,146	2.261	17,111,578	2,095,151	12.2%
1991	8,287,605	2.261	18,738,275	22,444,044	119.8%
1992	8,059,407	2.261	18,222,319	1,625,108	8.9%
1993	8,448,603	2.261	19,102,291	1,776,572	9.3%
1994	9,743,293	2.261	22,029,585	1,637,915	7.4%
1995	10,745,995	2.261	24,296,695	2,416,675	9.9%
1996	13,294,968	2.261	30,059,923	1,520,229	5.1%
1997	15,708,220	2.261	35,516,285	2,569,544	7.2%
1998	16,168,136	2.261	36,556,155	10,312,506	28.2%
1999	14,452,667	2.093	30,245,065	3,655,754	12.1%
2000	14,453,385	2.067	29,877,608	3,332,580	11.2%
2001	15,173,521	1.892	28,709,598	2,426,814	8.5%
2002	17,843,905	1.739	31,030,663	5,925,066	19.1%
2003	23,423,208	1.739	40,733,106	17,213,668	42.3%
2004	27,306,202	1.658	45,279,733	990,613	2.2%
2005	31,012,304	1.587	49,206,744	116,112,821	236.0%
2006	36,545,725	1.583	57,847,375	1,842,548	3.2%
2007	69,945,120	1.511	105,677,497	10,105,722	9.6%
2008	110,187,567	1.425	157,009,625	694,155,144	442.1%
2009	128,275,387	1.295	166,070,133	2,512,705	1.5%
2010	143,236,007	1.216	174,151,333	9,622,439	5.5%
2011	151,387,931	1.186	179,516,467	58,799,379	32.8%
2012	170,159,709	1.129	192,171,217	20,143,879	10.5%
2013	183,495,325	1.076	197,390,324	5,043,396	2.6%
Total	1,109,848,055		1,838,639,576	1,033,246,181	56.2%

Notes:

(2) Provided by TDI. Accident years ending 9/30/xx as of 12/31/2013
(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 12/31/2013
(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)
1981	18,498,543	2.261	41,825,206	2,055,581	4.9%
1982	17,273,728	2.261	39,055,899	1,472,069	3.8%
1983	16,247,909	2.261	36,736,522	61,752,490	168.1%
1984	11,008,847	2.261	24,891,003	9,535,536	38.3%
1985	15,662,193	2.261	35,412,218	4,532,749	12.8%
1986	19,854,927	2.261	44,891,990	6,306,903	14.0%
1987	22,542,928	2.261	50,969,560	3,739,010	7.3%
1988	24,744,994	2.261	55,948,431	4,139,098	7.4%
1989	22,159,987	2.261	50,103,731	8,884,751	17.7%
1990	21,480,544	2.261	48,567,510	11,997,188	24.7%
1991	25,239,134	2.261	57,065,682	10,178,608	17.8%
1992	26,718,987	2.261	60,411,630	12,221,034	20.2%
1993	31,914,206	2.261	72,158,020	17,910,197	24.8%
1994	35,133,612	2.261	79,437,097	6,968,697	8.8%
1995	34,347,927	2.261	77,660,663	20,240,594	26.1%
1996	38,349,764	2.261	86,708,816	9,046,495	10.4%
1997	42,447,731	2.261	95,974,320	8,514,675	8.9%
1998	41,427,572	2.261	93,667,740	10,127,907	10.8%
1999	34,004,815	2.093	71,161,803	8,680,187	12.2%
2000	36,439,477	2.067	75,326,605	9,518,422	12.6%
2001	32,881,662	1.892	62,214,914	23,547,404	37.8%
2002	37,396,181	1.739	65,032,194	7,950,367	12.2%
2003	49,027,236	1.739	85,258,672	10,177,909	11.9%
2004	49,927,649	1.658	82,791,105	3,738,542	4.5%
2005	50,116,517	1.587	79,519,104	34,201,898	43.0%
2006	54,703,319	1.583	86,588,606	4,907,133	5.7%
2007	60,982,886	1.511	92,136,789	5,242,698	5.7%
2008	65,015,817	1.425	92,643,021	448,238,966	483.8%
2009	70,667,217	1.295	91,488,433	9,959,671	10.9%
2010	70,788,779	1.216	86,067,466	10,972,340	12.7%
2011	73,325,323	1.186	86,949,487	5,982,085	6.9%
2012	80,858,142	1.129	91,317,784	52,149,273	57.1%
2013	90,280,189	1.076	97,116,565	15,272,473	15.7%
Total	1,321,468,742		2,297,098,585	860,162,950	37.4%

Notes:

(2) Provided by TDI. Accident years ending 9/30/xx as of 12/31/2013
(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 12/31/2013
(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 12/31/13	Modeled Loss Cost	Expected Annual Hurricane Loss
(1)	(2)	(3)	(4)
Aransas	2,216,719	3.923	8,696,189
Brazoria	15,285,579	1.503	22,974,225
Calhoun	612,279	2.655	1,625,601
Cameron	3,531,615	1.680	5,933,113
Chambers	1,517,975	1.635	2,481,889
Galveston	21,817,232	3.751	81,836,437
Harris	1,574,547	3.819	6,013,195
Jefferson	9,035,544	1.876	16,950,681
Kenedy	7,552	1.233	9,312
Kleberg	255,627	1.096	280,167
Matagorda	1,189,480	2.732	3,249,659
Nueces	11,865,036	2.791	33,115,315
Refugio	84,886	1.760	149,399
San Patricio	2,360,413	2.329	5,497,402
Willacy	107,947	2.259	243,852
Total	71,462,431	2.646	189,056,436
(5) 2013 Earned Premium at Present Rates			373,226,768
(6) Indicated Hurricane Loss Ratio			50.7%

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 12/31/13	Average Annual Modeled Loss	Provision for Storm Surge	Modeled Loss Cost
(1)	(2)	(3)	(4)	(5)
Aransas	2,216,719	8,660,703	1.004	3.923
Brazoria	15,285,579	22,885,328	1.004	1.503
Calhoun	612,279	1,619,419	1.004	2.655
Cameron	3,531,615	5,910,915	1.004	1.680
Chambers	1,517,975	2,471,571	1.004	1.635
Galveston	21,817,232	81,508,848	1.004	3.751
Harris	1,574,547	5,988,928	1.004	3.819
Jefferson	9,035,544	16,887,455	1.004	1.876
Kenedy	7,552	9,275	1.004	1.233
Kleberg	255,627	279,062	1.004	1.096
Matagorda	1,189,480	3,236,197	1.004	2.732
Nueces	11,865,036	32,981,048	1.004	2.791
Refugio	84,886	148,772	1.004	1.760
San Patricio	2,360,413	5,476,350	1.004	2.329
Willacy	107,947	242,876	1.004	2.259
Total	71,462,431	188,306,747	1.004	2.646

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 12/31/13	Modeled Loss Cost	Expected Annual Hurricane Loss
(1)	(2)	(3)	(4)
Aransas	2,036,094	2.613	5,320,314
Brazoria	15,202,118	1.610	24,475,410
Calhoun	902,536	3.927	3,544,259
Cameron	3,531,615	1.881	6,642,968
Chambers	1,927,198	1.776	3,422,704
Galveston	21,888,683	3.075	67,307,700
Harris	1,140,514	2.993	3,413,558
Jefferson	9,070,453	1.906	17,288,283
Kenedy	7,552	2.461	18,585
Kleberg	255,627	1.518	388,042
Matagorda	1,175,515	2.836	3,333,761
Nueces	11,865,132	2.086	24,750,665
Refugio	84,177	2.317	195,038
San Patricio	2,267,271	1.952	4,425,713
Willacy	107,947	2.640	284,980
Total	71,462,432	2.306	164,811,980
(5) 2013 Earned Premium at Present Rates			373,226,768
(6) Indicated Hurricane Loss Ratio			44.2%

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 12/31/13	Average Annual Modeled Loss	Provision for Storm Surge	Modeled Loss Cost
(1)	(2)	(3)	(4)	(5)
Aransas	2,036,094	5,225,729	1.018	2.613
Brazoria	15,202,118	24,048,312	1.018	1.610
Calhoun	902,536	3,481,439	1.018	3.927
Cameron	3,531,615	6,527,058	1.018	1.881
Chambers	1,927,198	3,362,610	1.018	1.776
Galveston	21,888,683	66,112,482	1.018	3.075
Harris	1,140,514	3,353,152	1.018	2.993
Jefferson	9,070,453	16,981,714	1.018	1.906
Kenedy	7,552	18,255	1.018	2.461
Kleberg	255,627	381,301	1.018	1.518
Matagorda	1,175,515	3,274,615	1.018	2.836
Nueces	11,865,132	24,309,507	1.018	2.086
Refugio	84,177	191,555	1.018	2.317
San Patricio	2,267,271	4,348,373	1.018	1.952
Willacy	107,947	279,895	1.018	2.640
Total	71,462,432	161,895,997	1.018	2.306

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 - 2013

Exhibit 9

Landfall Year	Month	Name	Landfall 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
50-Year	13/1/1963 - 12/31/2013	14	50	0.280
163-Year	1/1/1851 - 12/31/2013	63	163	0.387

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)
2004	29,344,036	1.658	48,658,914
2005	35,781,650	1.587	56,774,192
2006	42,490,967	1.583	67,257,959
2007	58,103,369	1.511	87,786,233
2008	72,541,071	1.425	103,365,985
2009	80,844,468	1.295	104,664,284
2010	88,599,807	1.216	107,722,735
2011	92,287,441	1.186	109,434,849
2012	98,605,959	1.129	111,361,422
2013	105,941,027	1.076	113,963,305
Total	704,539,795		910,989,878

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)
2004	12,003,919	1.658	19,905,158
2005	14,047,722	1.587	22,289,304
2006	16,472,936	1.583	26,074,626
2007	26,688,989	1.511	40,323,407
2008	38,200,787	1.425	54,433,467
2009	43,977,111	1.295	56,934,419
2010	49,048,919	1.216	59,635,386
2011	50,547,302	1.186	59,939,211
2012	53,841,760	1.129	60,806,619
2013	57,427,564	1.076	61,776,208
Total	362,257,009		462,117,805

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)
2004	17,981,576	1.658	29,817,437
2005	21,373,338	1.587	33,912,746
2006	25,684,373	1.583	40,655,194
2007	57,705,210	1.511	87,184,669
2008	98,017,773	1.425	139,668,515
2009	116,551,972	1.295	150,892,559
2010	131,679,293	1.216	160,100,277
2011	140,621,661	1.186	166,749,777
2012	160,031,435	1.129	180,732,770
2013	173,209,952	1.076	186,326,101
Total	942,856,583		1,176,040,045

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)
2004	598,732	1.658	992,830
2005	968,572	1.587	1,536,818
2006	1,164,136	1.583	1,842,684
2007	1,579,121	1.511	2,385,836
2008	1,913,655	1.425	2,726,825
2009	2,218,368	1.295	2,871,983
2010	2,562,327	1.216	3,115,367
2011	2,825,372	1.186	3,350,338
2012	3,294,072	1.129	3,720,186
2013	3,672,814	1.076	3,950,934
Total	20,797,169		26,493,801

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)
2004	64,780,484	1.658	107,420,397
2005	74,378,169	1.587	118,014,694
2006	93,584,144	1.583	148,132,155
2007	165,328,751	1.511	249,789,100
2008	219,410,898	1.425	312,645,282
2009	250,690,606	1.295	324,553,472
2010	273,156,582	1.216	332,113,299
2011	292,237,884	1.186	346,536,954
2012	323,320,005	1.129	365,144,011
2013	346,954,024	1.076	373,226,768
Total	2,103,841,547		2,677,576,132

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	2011	2012	2013	Selected
(1)	Direct Written Premium	$403,748,164	$443,479,701	$472,739,474	
(2)	Direct Earned Premium	385,000,000	429,594,000	456,629,705	
(3)	Commission				
	$ Amount	65,568,074	70,927,902	75,609,038	
	% of DWP	16.2%	16.0%	16.0%	16.1%
(4)	Other Acquisition				
	$ Amount	$0	$0	$0	
	% of DWP	0.0%	0.0%	0.0%	0.0%
(5)	General Expense				
	Unadjusted $ Amount	$17,349,588	$22,296,934	$24,250,725	
	Adjustments				
	Contribution to Statutory Fund	0	0	0	
	Adjusted $ Amount	17,349,588	22,296,934	24,250,725	
	% of DWP	4.3%	5.0%	5.1%	4.8%
(6)	Taxes, Licenses & Fees				
	$ Amount	$7,851,260	$8,635,152	$9,329,687	
	% of DWP	1.9%	1.9%	2.0%	2.0%
(7)	Reinsurance Expense				15.4%
(8)	Total Fixed Expenses				20.2%
(9)	Total Variable Expenses				18.1%
(10)	Fund Contribution				20.0%
(11)	Variable Permissible Loss & LAE Ratio				61.9%

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) Selected judgmentally to incorporate savings from lack of reinsurance purchase
(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)	2014 - 2015 Reinsurance Premium	111,248,738
(2a)	Average Annual Loss by Reinsurance Layer (AIR)	
	100% of $1450M XS $1900M	32,602,939
	Total	32,602,939
(2b)	Average Annual Loss by Reinsurance Layer (RMS)	
	100% of $1450M XS $1900M	32,149,858
	Total	32,149,858
(2c)	Selected Total Average Annual Loss	32,376,399
(3)	Annual Exposure Growth	5.0%
(4)	Prospective Average Annual Loss	33,447,357
(5)	Net Cost of Reinsurance	77,801,381
(6)	TWIA 2013 Earned Premium at Present Rates	492,087,832
(7)	2014 - 2015 TWIA Prospective Earned Premium at Present Rates	520,687,154
(8)	Indicated Reinsurance Expense %	14.9%

Notes:

(1) From TWIA reinsurance contract effective 6/1/2014 through 5/31/2015
(2a) Provided by Guy Carpenter, based on AIR model using TWIA exposures as of 12/31/2013 and adjusted for ALAE
(2b) Provided by Guy Carpenter, based on RMS model using TWIA exposures as of 12/31/2013 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) ^ 0.667]
(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 7/1/2013 to 9/1/2014)
(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)
1991	7,329,258	13,133,584	20,462,842	20,503,935	(41,093)
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	360,878,930	473,914,902	472,739,474	1,175,428
Total	1,090,000,856	2,599,685,329	3,689,686,185	3,692,919,467	(3,233,282)

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
Analysis of Current and Proposed Net Premium Income

Exhibit 13

Premiums and Rate Components		TWIA Indications at Current Rates			TWIA Indications at Proposed Rates		
		Commercial	Residential	Total	Commercial	Residential	Total
(1)	2013 Written Premium	132,628,165	392,705,220	525,333,385	139,259,573	412,340,481	551,600,054
(2)	2013 Earned Premium	124,763,257	385,476,539	510,239,796	127,882,339	395,113,452	522,995,791
(3)	Non-Hurricane Loss & LAE Ratio	6.9%	12.0%	10.8%	6.7%	11.7%	10.5%
(4)	General Expenses	4.8%	4.8%	4.8%	4.6%	4.6%	4.6%
(5)	Reinsurance	21.2%	21.2%	21.2%	20.2%	20.2%	20.2%
(6)	Commission	16.1%	16.1%	16.1%	16.1%	16.1%	16.1%
(7)	Taxes, Licenses, & Fees	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
(8)	Total Non-Catastrophe Expenses	67,066,900	219,349,033	286,415,933	68,267,185	222,903,015	291,170,200
(9)	Net Premium Income			223,823,863			231,825,591

Estimated Costs for $1 Billion Class 1 Bonds		
(10)	Net Required Premium	187,500,000 - 212,500,000
(11)	Net Debt Service	150,000,000 - 170,000,000

Notes:

(1) projected
(2) projected
(3) Exhibit 2, Sheet 1
(4) Exhibit 11, Sheet 1 (5)
(5) Exhibit 11, Sheet 1 (7)
(6) Exhibit 11, Sheet 1 (3)
(7) Exhibit 11, Sheet 1 (6)
(8) = (1) * [(4) + (6) + (7)] + (2) * (3)
(9) = (2) - (8)
(10) from current projections associated with pre-event Class 1 public securities in progress
(11) from current projections associated with pre-event Class 1 public securities in progress

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	2.449	2.571	4.982%	3.850	4.042	4.987%
Brick Veneer	2.515	2.640	4.970%	4.019	4.219	4.976%
Brick	2.087	2.191	4.983%	3.336	3.502	4.976%

Territorial Multipliers for Personal Property

	Territory 1			Territories 8, 9, 10		
Construction	Current	Proposed	Change	Current	Proposed	Change
Frame	2.508	2.633	4.984%	3.944	4.141	4.995%
Brick Veneer	2.417	2.537	4.965%	3.959	4.156	4.976%
Brick	2.042	2.144	4.995%	3.258	3.420	4.972%

Territorial Multipliers for Farm and Ranch Dwellings

	Territory 1			Territories 8, 9, 10		
Construction	Current	Proposed	Change	Current	Proposed	Change
Frame	2.449	2.571	4.982%	3.850	4.042	4.987%
Brick Veneer	2.515	2.640	4.970%	4.019	4.219	4.976%
Brick	2.087	2.191	4.983%	3.336	3.502	4.976%

Territorial Multipliers for Farm and Ranch Personal Property

	Territory 1			Territories 8, 9, 10		
Construction	Current	Proposed	Change	Current	Proposed	Change
Frame	2.508	2.633	4.984%	3.944	4.141	4.995%
Brick Veneer	2.417	2.537	4.965%	3.959	4.156	4.976%
Brick	2.042	2.144	4.995%	3.258	3.420	4.972%

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