

**TEXAS WINDSTORM INSURANCE ASSOCIATION
COMMERCIAL 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 commercial coverages. This report documents the procedures and results of this analysis.

DISTRIBUTION AND USE

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

RELIANCE UPON DATA

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

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

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

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

We also used the results of two different hurricane simulation models -- one prepared by Applied Insurance Research (AIR) and one model prepared by Risk Management Solutions (RMS). Both models utilized TWIA exposure data as of 12/31/13. 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 commercial wind/hail coverage. The actual costs of providing commercial property coverage for a specific year may differ substantially from the indicated rate level range shown in this report. The possibility of this variability arises from the fact that the events covered by TWIA are inherently unpredictable from year to year. The indicated rate level is, however, our best estimate of the expected annual cost of providing commercial wind/hail coverage.

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

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

EXECUTIVE SUMMARY

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

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

Indicated Rate Change: Long Term Hurricane Methodologies

Hurricane Projection Methodology	Indicated Rate Change
Actual Experience and Models Combined	+24%
Actual Industry Experience	+20%
Hurricane Simulation Models	+27%

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 44 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 5% less than the corresponding indication from the prior TWIA commercial rate study. A 5% rate increase, effective January 1, 2014, is the primary reason for the change.

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

4. The indicated rate changes presented in this report reflect a separate provision for contributions to the catastrophe reserve trust fund. The provision for the catastrophe trust fund is 20% of TWIA premium. The 20% provision is necessary to continue 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.

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

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

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

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

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

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

Earned Premium at Current Rates

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

Loss Adjustment Expense Factors

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

The indicated LAE to loss ratios are shown in Exhibit 4, Sheet 1. For hurricane losses, the indicated LAE ratio of 0.121 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 loss ratios is described in the following sections.

Projected Non-Hurricane Loss and LAE Ratio

Exhibit 2 shows the development of the projected non-hurricane loss and LAE ratio. The loss portion of this ratio is estimated by comparing the indicated ultimate non-hurricane loss for accident years 2004 - 2013 to the earned premium at current rates for the same ten years. The indicated ultimate non-hurricane loss for each year is based on actual paid loss as of 12/31/13 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 both the current average of all available years and the prior selection. Given the positive skewness of the observed age-to-age

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

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

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

The resulting loss and LAE ratios for each accident year from 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 commercial book of business due to the growth, this weighting may be more appropriate than a non-weighted average across all years.

Projected Hurricane Loss and LAE Ratio

Two different methods are used to develop the projected hurricane loss and LAE ratios. The first method is based on insurance industry and meteorological hurricane experience for the last 44 and 163 years, respectively. The other method is based on hurricane simulation models. The "44/163-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 44-year period is insufficient to measure long-term hurricane intensity.

- A 44-year period of insurance industry experience includes years where land use, population densities, construction techniques and materials, engineering techniques and building codes were different than today. These differences diminish the relevance of insurance data from several decades ago in evaluating today's commercial property rates.

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

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

Actual 44/163-Year Industry Hurricane Experience

In Exhibit 6, Texas insurance industry seacoast dwelling extended coverage experience for the 1970-2013 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 44 years of loss ratios by separating the 44 years into the twelve hurricane years and thirty-two non-hurricane years. The 32 non-hurricane years are used to develop an estimated non-hurricane loss ratio.

Hurricane loss ratios are then estimated by subtracting the non-hurricane loss ratio from the total loss ratio in each of the twelve hurricane years. An average hurricane loss ratio for hurricane years is calculated as the average of the twelve hurricane loss ratios: 109.2%.

The 44-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 44-year period is 0.293, while the annual frequency during the most recent 163-year period is 0.387. The 44-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 44-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 42.3%.

Hurricane Simulation Models

The projected hurricane loss ratio is determined by averaging two different hurricane simulation models: 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. 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 44.1% and 47.4%. The average of these loss ratios is 45.8%.

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

The paid loss reconciliation shows small differences between the ratemaking paid loss data and the annual statement data for all accident years except 2008 and 2012 where relatively larger differences are indicated.

The written premium reconciliation shows the differences between the ratemaking written premium data and the annual statement data for calendar years 1991 - 2013. Differences of less than 1% exist for all recent years except 2010.

Key Differences Versus Prior Indications

The indicated rate change shown in this report is 5% less than the comparable indication based on the prior (June 2013) study. The reasons for the lower indications are summarized in the following table.

Reconciliation of Current vs. Prior Indications

Rate Indication/Reason for Change	Impact of Change	Rate Indication
<i>Previous Rate Indication (Combined Method)</i>		+29%
TWIA Rate Level	-5%	
Change in Experience Period	0%	
<i>Current Rate Indication (Combined Method)</i>		+24%

These reasons are discussed below:

TWIA Rate Level

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

Change in Experience Period

Using a more recent experience period did not change the indicated rate change.

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

<u>Exhibit Number</u>	<u>Exhibit Title or Purpose</u>
1	Summary of Indicated Rate Change
2	Projected Ultimate Non-Hurricane Loss & LAE Ratio
3	Paid Loss Development Factors and Premium and Loss Trend Analysis
4	Development of LAE Factor
5	Summary of Indicated Hurricane Loss & LAE Ratios
6	Development of Hurricane Loss Ratio – 44/163-Year Method
7	Hurricane Loss Ratio – AIR Model
8	Hurricane Loss Ratio – RMS Model
9	Texas Hurricanes 1850 - 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
Commercial Property - Wind & Hail
Rate Level Review
 Summary of Indicated Rate Change
 By Method for Projecting Hurricane Loss & LAE

Exhibit 1

Hurricane Projection Method	Indicated Loss & LAE Ratio			Fixed Expenses Total (5)	Variable Permissible LLAE Ratio (6)	Indicated Rate Change (7)	Proposed Rate Change (8)
	Hurricane (2)	Non-Hurricane (3)	(4)				
Using Experience and Models	49.4%	6.9%	20.2%	76.5%	61.9%	+24%	+5.0%
Using Actual Industry Experience	47.4%	6.9%	20.2%	74.5%	61.9%	+20%	
Using Hurricane Models	51.3%	6.9%	20.2%	78.4%	61.9%	+27%	

Notes:

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

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

Accident Year	Ultimate Non-Hurricane Loss	LAE Factor	Net Trend Factor	Projected Non-Hurricane Loss & LAE	Earned Premium at Current Rate Level	Indicated Non-Hurricane Loss & LAE Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2004	614,079	0.183	1.030	748,249	60,505,354	1.2%
2005	2,492,327	0.183	0.983	2,898,300	60,818,753	4.8%
2006	1,517,386	0.183	0.923	1,656,847	93,204,876	1.8%
2007	1,230,788	0.183	1.320	1,921,949	144,252,802	1.3%
2008	1,136,703	0.183	1.280	1,721,241	151,324,981	1.1%
2009	2,624,953	0.183	1.167	3,623,908	137,540,330	2.6%
2010	7,527,998	0.183	1.133	10,090,069	130,444,314	7.7%
2011	19,503,720	0.183	1.079	24,895,660	119,976,079	20.8%
2012	12,533,339	0.183	1.118	16,576,519	118,861,064	13.9%
2013	11,224,330	0.183	1.074	14,260,983	120,298,089	11.9%
Total	60,405,623			78,393,725	1,137,226,642	6.9%

Notes:

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

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

Accident Year	TWIA Non-Hurricane Paid Loss	Development Factor	Ultimate Non-Hurricane Loss
(1)	(2)	(3)	(4)
2004	614,079	1.000	614,079
2005	2,492,327	1.000	2,492,327
2006	1,517,386	1.000	1,517,386
2007	1,230,788	1.000	1,230,788
2008	1,127,682	1.008	1,136,703
2009	2,553,456	1.028	2,624,953
2010	7,280,462	1.034	7,527,998
2011	18,434,518	1.058	19,503,720
2012	11,404,312	1.099	12,533,339
2013	6,886,092	1.630	11,224,330
Total	53,541,102		60,405,623

Notes:

- (2) Exhibit 2, Sheet 3, as of 12/31/12
- (3) Exhibit 3, Sheet 1
- (4) = (2) * (3)

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Summary of TWIA Historical Paid Loss as of 12/31/13

Accident Year	Paid Loss Excluding Expense			Total
	Non-Hurricane (1)	Hurricane (2)	Hurricane (3)	
2004	614,079		0	614,079
2005	2,492,327		68,682,146	71,174,473
2006	1,517,386		0	1,517,386
2007	1,230,788		4,379,850	5,610,638
2008	1,127,682		835,258,737	836,386,419
2009	2,553,456		0	2,553,456
2010	7,280,462		0	7,280,462
2011	18,434,518		0	18,434,518
2012	11,404,312		0	11,404,312
2013	6,886,092		0	6,886,092
Total	53,541,102		908,320,733	961,861,835

Notes:

- (2), (3) Provided by TWIA, includes commercial and farm
- (4) = (2) + (3)

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

Year / Quarter	Average EPPR		
(1)	(2)	(3) Current Average Earned Date	7/1/2013
2006 / 4	7,052.51	(4) Current Average Accident Date	7/1/2013
2007 / 4	10,531.27	(5) Prospective Average Earned / Accident Date	1/1/2016
2008 / 4	10,423.56	(6) Premium Trend Length	2.500
2009 / 4	9,798.26	(7) Loss Trend Length	2.500
2010 / 4	9,628.55	(8) Selected Premium Trend	-0.3%
2011 / 4	8,963.75	(9) Selected Loss Trend	2.6%
2012 / 4	9,293.62		
2013 / 4	9,239.40		

Accident Year	Current Premium Trend	Current Loss Trend	Prospective Premium Trend	Prospective Loss Trend	Net Trend Factor
(10)	(11)	(12)	(13)	(14)	(15)
2004	1.302	1.249	0.993	1.066	1.030
2005	1.306	1.195	0.993	1.066	0.983
2006	1.310	1.126	0.993	1.066	0.923
2007	0.877	1.078	0.993	1.066	1.320
2008	0.886	1.056	0.993	1.066	1.280
2009	0.943	1.024	0.993	1.066	1.167
2010	0.960	1.012	0.993	1.066	1.133
2011	1.031	1.035	0.993	1.066	1.079
2012	0.994	1.035	0.993	1.066	1.118
2013	1.000	1.000	0.993	1.066	1.074

Notes:

- (2) Exhibit 3, Sheet 2 (10)
- (3) Latest Year / Quarter Ending Date - 6 Months
- (4) Latest Accident Year Ending Date - 6 Months
- (5) Rate Effective Date + 12 Months
- (6) = (5) - (3)
- (7) = (5) - (4)
- (8) Exhibit 3, Sheet 2
- (9) Exhibit 3, Sheet 3a
- (11) = (2) Indexed to 2013 / 4
- (12) Exhibit 3, Sheet 3a
- (13) = [1 + (8)] ^ (6)
- (14) = [1 + (9)] ^ (7)
- (15) = [(12) * (14)] / [(11) * (13)]

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

Accident Year	<u>Months of Development</u>							
	12 (1)	24 (2)	36 (3)	48 (4)	60 (5)	72 (6)	84 (7)	(8)
2004		261	614	614	614	614	614	614
2005		1,414	1,943	2,100	2,100	2,100	2,335	2,492
2006		1,210	1,517	1,517	1,517	1,517	1,517	1,517
2007		1,095	1,225	1,231	1,231	1,231	1,231	1,231
2008		952	1,040	1,040	1,128	1,128	1,128	
2009		706	2,289	2,553	2,553	2,553		
2010		4,489	6,162	6,783	7,280			
2011		13,360	16,138	18,435				
2012		8,512	11,404					
2013		6,886						

Accident Year	<u>Development Factors</u>							
	12 - 24 (1)	24 - 36 (2)	36 - 48 (3)	48 - 60 (4)	60 - 72 (5)	72 - 84 (6)	84 - Ult (7)	(8)
2004		2.357	1.000	1.000	1.000	1.000	1.000	
2005		1.375	1.081	1.000	1.000	1.112	1.067	
2006		1.254	1.000	1.000	1.000	1.000	1.000	
2007		1.118	1.005	1.000	1.000	1.000	1.000	
2008		1.093	1.000	1.085	1.000	1.000		
2009		3.241	1.115	1.000	1.000			
2010		1.373	1.101	1.073				
2011		1.208	1.142					
2012		1.340						
Average		1.390	1.047	1.023	1.000	1.022	1.017	
Avg x hi / lo		1.432	1.050	1.015	1.000	1.000	1.000	
Avg 3 Year		1.307	1.120	1.053	1.000	1.000	1.022	
Avg 5 Year		1.651	1.073	1.032	1.000	1.022	1.017	
Prior		1.576	1.031	1.023	1.012	1.017	1.000	1.000
Selected		1.483	1.039	1.023	1.006	1.020	1.008	1.000
Cumulative		1.630	1.099	1.058	1.034	1.028	1.008	1.000

Notes:

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

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

Year / Quarter	Policies In-Force	Annualized		On- Level Factors	Premium at Present Rates		Earned Premium at Present Rates		Exponential Fitted Trends			
		Earned In-Force	Written Premium		Written	Earned	Annualized	Average	All-Year	5-Year	4-Year	3-Year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2005 / 2	10,251		9,692,929	1.742	16,881,168	14,847,854						
2005 / 3	10,776		10,442,876	1.742	18,187,272	15,254,476						
2005 / 4	10,615		8,668,450	1.742	15,096,939	15,543,160						
2006 / 1	10,939		9,902,054	1.659	16,424,170	15,965,366	61,610,857					
2006 / 2	11,554	10,808	17,237,202	1.659	28,590,709	17,751,188	64,514,190	5,969.05	8,658.85			
2006 / 3	12,798	11,224	24,440,342	1.613	39,414,341	21,840,194	71,099,907	6,334.77	8,696.16			
2006 / 4	13,104	11,788	25,268,242	1.536	38,806,942	27,575,649	83,132,396	7,052.51	8,733.63			
2007 / 1	13,418	12,409	19,686,371	1.481	29,155,555	32,268,216	99,435,246	8,013.40	8,771.27			
2007 / 2	14,309	13,063	33,066,784	1.481	48,971,973	36,164,458	117,848,516	9,021.64	8,809.06			
2007 / 3	15,543	13,750	34,446,242	1.481	51,014,953	40,897,464	136,905,786	9,956.51	8,847.02			
2007 / 4	15,186	14,354	23,752,321	1.481	35,177,235	41,833,117	151,163,255	10,531.27	8,885.15			
2008 / 1	14,705	14,775	17,918,266	1.436	25,726,360	41,224,249	160,119,287	10,837.27	8,923.43			
2008 / 2	14,506	14,960	29,792,537	1.405	41,862,245	40,159,236	164,114,065	10,969.92	8,961.89			
2008 / 3	15,154	14,936	31,242,113	1.405	43,899,081	37,242,131	160,458,733	10,742.82	9,000.50			
2008 / 4	14,627	14,818	19,084,269	1.405	26,815,788	35,829,339	154,454,954	10,423.56	9,039.29			
2009 / 1	14,096	14,672	22,603,019	1.267	28,635,584	34,663,516	147,894,222	10,080.12	9,078.24	9,869.21		
2009 / 2	13,835	14,512	31,063,838	1.216	37,758,289	34,593,143	142,328,129	9,807.70	9,117.36	9,823.16		
2009 / 3	14,052	14,290	34,959,552	1.216	42,493,554	34,627,476	139,713,473	9,776.84	9,156.65	9,777.32		
2009 / 4	13,862	14,057	22,643,071	1.216	27,522,794	33,848,748	137,732,882	9,798.26	9,196.10	9,731.69		
2010 / 1	13,510	13,888	21,743,758	1.216	26,429,674	33,753,533	136,822,899	9,851.88	9,235.73	9,686.28	9,609.93	
2010 / 2	13,517	13,775	30,585,736	1.216	37,177,153	33,468,998	135,698,754	9,851.09	9,275.53	9,641.07	9,573.08	
2010 / 3	13,796	13,703	30,105,285	1.216	36,593,162	32,329,564	133,400,842	9,734.98	9,315.50	9,596.08	9,536.37	
2010 / 4	13,497	13,626	19,736,774	1.216	23,990,172	31,642,963	131,195,058	9,628.55	9,355.64	9,551.30	9,499.80	
2011 / 1	13,063	13,524	18,744,820	1.158	21,699,472	30,566,361	128,007,887	9,465.15	9,395.95	9,506.73	9,463.38	9,137.40
2011 / 2	12,873	13,388	28,450,431	1.158	32,934,930	29,181,469	123,720,358	9,241.31	9,436.44	9,462.37	9,427.09	9,148.42
2011 / 3	13,052	13,214	30,646,904	1.158	35,477,622	29,033,674	120,424,467	9,113.23	9,477.10	9,418.21	9,390.94	9,159.44
2011 / 4	13,168	13,080	22,169,693	1.158	25,664,191	28,465,458	117,246,961	8,963.75	9,517.94	9,374.26	9,354.93	9,170.48
2012 / 1	13,081	13,041	23,778,724	1.103	26,216,043	29,470,819	116,151,419	8,906.46	9,558.95	9,330.51	9,319.06	9,181.54
2012 / 2	12,750	13,028	31,324,576	1.103	34,535,345	30,507,568	117,477,519	9,017.22	9,600.15	9,286.97	9,283.32	9,192.60
2012 / 3	13,263	13,039	32,445,954	1.103	35,771,664	30,457,323	118,901,167	9,118.80	9,641.51	9,243.63	9,247.73	9,203.68
2012 / 4	13,029	13,048	22,975,141	1.103	25,330,093	30,828,647	121,264,357	9,293.62	9,683.06	9,200.49	9,212.26	9,214.78
2013 / 1	12,986	13,019	23,791,092	1.050	24,980,647	30,387,556	122,181,094	9,384.92	9,724.78	9,157.56	9,176.94	9,225.88
2013 / 2	12,894	13,025	32,039,377	1.050	33,641,346	29,936,903	121,610,429	9,336.69	9,766.69	9,114.82	9,141.75	9,237.00
2013 / 3	13,141	13,028	34,754,762	1.050	36,492,500	30,207,846	121,360,952	9,315.57	9,808.78	9,072.29	9,106.70	9,248.13
2013 / 4	13,048	13,015	22,450,741	1.050	23,573,278	29,717,273	120,249,578	9,239.40	9,851.04	8,987.81	9,071.78	9,259.28
(14) Average Annual Change									1.7%	-1.9%	-1.5%	0.5%
(15) Correlation Coefficient									8.0%	57.1%	33.1%	5.2%
(16) Selected Premium Trend												-0.3%

- Notes:
- (2) Provided by TWIA
 - (3) Calculated from (2) using uniform quarterly earning assumption
 - (4) Provided by TWIA
 - (5) Factor to bring written premium to current rate level
 - (6) = (4) * (5) Indexed to 2012 / 4
 - (7) Calculated from (6) using uniform monthly earning assumption
 - (8) = Sum of (7) for prior 4 quarters
 - (9) = (8) / (3)
 - (10) - (13) = (9) fitted to an exponential distribution, excluding 2007 / 2 - 2007 / 4
 - (14) Fitted average annual change, excluding 2007 / 2 - 2007 / 4
 - (15) Evaluates the predictability of the fitted curve
 - (16) Selected based on judgment

Texas Windstorm Insurance Association

Commercial Property - Wind & Hail

Rate Level Review

Loss Trend Analysis

Summary of Indices and Calculation of Prospective Loss Costs

Exhibit 3

Sheet 3a

Calendar Year Ending 12/31/xx	<u>Commercial</u>		<u>Residential</u>		Modified CPI	Weighted Average
	Statewide Boeckh	Coastal Boeckh	Statewide Boeckh	Coastal Boeckh		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2004			1.291	1.298	1.102	1.249
2005	1.237	1.231	1.237	1.240	1.085	1.195
2006	1.157	1.148	1.161	1.160	1.060	1.126
2007	1.102	1.091	1.116	1.114	1.037	1.078
2008	1.078	1.065	1.098	1.088	1.027	1.056
2009	1.034	1.019	1.076	1.062	1.040	1.024
2010	1.024	1.002	1.070	1.064	1.041	1.012
2011	1.044	1.039	1.057	1.058	1.024	1.035
2012	1.035	1.045	1.029	1.030	1.005	1.035
2013	1.000	1.000	1.000	1.000	1.000	1.000

Factors to Adjust For Prospective Loss Costs

(8) Fitted Trend	2.1%	3.2%	1.7%	1.4%	0.9%	2.6%
(9) Cost Factor	1.054	1.081	1.043	1.035	1.024	1.066

Notes:

- (2) = Exhibit 3, Sheet 3b trended forward to 12/31/2013
- (3) = Exhibit 3, Sheet 3c trended forward to 12/31/2013
- (4) = Residential Exhibit 3, Sheet 3b trended forward to 12/31/2013
- (5) = Residential Exhibit 3, Sheet 3c trended forward to 12/31/2013
- (6) = Exhibit 3, Sheet 3d
- (7) = 25% CPI and 75% Boeckh (most appropriate available by year)
- (8) = (2) - (7) fitted to an exponential curve using 5 years' data (where available)
- (9) = [1 + (8)] ^ 2.5 (trended from 7/1/2013 to 1/1/2016)

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

Calendar Year Ending	Texas	Fitted Trends	
	Statewide Index	All Years Linear	Exponential
(1)	(2)	(3)	(4)
3/31/2004			
6/30/2004			
9/30/2004			
12/31/2004			
3/31/2005			
6/30/2005			
9/30/2005			
12/31/2005	1784.92	1890.74	1890.91
3/31/2006	1809.91	1901.32	1900.87
6/30/2006	1838.89	1911.90	1910.89
9/30/2006	1872.87	1922.48	1920.96
12/31/2006	1908.61	1933.06	1931.08
3/31/2007	1939.13	1943.64	1941.26
6/30/2007	1964.32	1954.22	1951.49
9/30/2007	1986.91	1964.80	1961.77
12/31/2007	2002.86	1975.39	1972.11
3/31/2008	2014.68	1985.97	1982.50
6/30/2008	2026.83	1996.55	1992.95
9/30/2008	2036.42	2007.13	2003.45
12/31/2008	2048.86	2017.71	2014.01
3/31/2009	2067.48	2028.29	2024.63
6/30/2009	2089.43	2038.87	2035.30
9/30/2009	2113.66	2049.45	2046.02
12/31/2009	2135.53	2060.03	2056.80
3/31/2010	2157.39	2070.61	2067.64
6/30/2010	2169.76	2081.19	2078.54
9/30/2010	2169.47	2091.78	2089.49
12/31/2010	2155.75	2102.36	2100.50
3/31/2011	2133.40	2112.94	2111.57
6/30/2011	2117.93	2123.52	2122.70
9/30/2011	2112.10	2134.10	2133.89
12/31/2011	2114.69	2144.68	2145.13
3/31/2012	2119.35	2155.26	2156.44
6/30/2012	2120.80	2165.84	2167.80
9/30/2012	2124.00	2176.42	2179.22
12/31/2012	2132.36	2187.00	2190.71
3/31/2013	2147.42	2197.58	2202.25
6/30/2013	2168.45	2208.17	2213.86
9/30/2013	2189.19	2218.75	2225.53
12/31/2013	2207.71	2229.33	2237.25
Annual Trend		1.9%	2.1%
R-Squared		0.793	0.783

Notes:

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

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

Calendar Year Ending	Texas Coastal Index	Fitted Trends	
		All Years Linear	Exponential
(1)	(2)	(3)	(4)
3/31/2002			
6/30/2002			
9/30/2002			
12/31/2002			
3/31/2003			
6/30/2003			
9/30/2003			
12/31/2003	1588.21	1704.00	1705.62
3/31/2004	1597.26	1718.95	1718.94
6/30/2004	1611.74	1733.91	1732.36
9/30/2004	1638.59	1748.86	1745.89
12/31/2004	1675.10	1763.81	1759.53
3/31/2005	1713.04	1778.76	1773.27
6/30/2005	1748.40	1793.71	1787.12
9/30/2005	1775.70	1808.66	1801.07
12/31/2005	1800.08	1823.61	1815.14
3/31/2006	1828.22	1838.56	1829.31
6/30/2006	1858.44	1853.51	1843.60
9/30/2006	1894.75	1868.46	1858.00
12/31/2006	1930.37	1883.41	1872.51
3/31/2007	1959.70	1898.36	1887.13
6/30/2007	1988.13	1913.32	1901.87
9/30/2007	2013.31	1928.27	1916.72
12/31/2007	2031.76	1943.22	1931.69
3/31/2008	2045.54	1958.17	1946.78
6/30/2008	2059.06	1973.12	1961.98
9/30/2008	2067.44	1988.07	1977.30
12/31/2008	2081.19	2003.02	1992.74
3/31/2009	2102.26	2017.97	2008.30
6/30/2009	2124.60	2032.92	2023.99
9/30/2009	2151.09	2047.87	2039.79
12/31/2009	2174.31	2062.82	2055.72
3/31/2010	2197.54	2077.78	2071.78
6/30/2010	2214.43	2092.73	2087.96
9/30/2010	2222.87	2107.68	2104.26
12/31/2010	2211.36	2122.63	2120.70
3/31/2011	2185.47	2137.58	2137.26
6/30/2011	2161.59	2152.53	2153.95
9/30/2011	2140.49	2167.48	2170.77
12/31/2011	2133.28	2182.43	2187.72
3/31/2012	2129.27	2197.38	2204.81
6/30/2012	2119.68	2212.33	2222.03
9/30/2012	2115.32	2227.28	2239.38
12/31/2012	2119.43	2242.24	2256.87
3/31/2013	2137.11	2257.19	2274.49
6/30/2013	2167.09	2272.14	2292.26
9/30/2013	2194.83	2287.09	2310.16
12/31/2013	2215.82	2302.04	2328.20
Annual Trend		2.7%	3.2%
R-Squared		0.809	0.797

Notes:

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

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

Calendar Year Ending	Modified CPI	Fitted Trends		5 Years		4 Years		3 Years	
		All Years Linear	Exponential	Linear	Exponential	Linear	Exponential	Linear	Exponential
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
9/30/2003	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
Commercial Property - Wind & Hail
Rate Level Review**

Development of LAE factor Using TWIA Commercial + Residential Experience

Accident Year	Projected Ultimate Loss	Projected Ultimate LAE	Ultimate LAE to Loss Ratio	Hurricane Indicator
(1)	(2)	(3)	(4)	(5)
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
Commercial 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			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) 2003 - 2010: (2) * (3); 1978 - 2002: from prior TWIA annual statements

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

Accident Year	<u>Months of Development</u>							
	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	5,167
2005	164,811	157,442	152,243	153,502	154,576	154,793	154,981	154,981
2006	4,471	4,616	4,507	4,279	4,365	4,284	4,276	4,276
2007	16,446	15,813	15,537	15,834	15,867	15,750	15,745	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							

Accident Year	<u>Development Factors</u>							
	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	1.000	
2005	0.955	0.967	1.008	1.007	1.001	1.001	1.001	
2006	1.032	0.976	0.949	1.020	0.981	0.998	0.998	
2007	0.962	0.983	1.019	1.002	0.993	1.000	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	1.000
Selected	1.085	1.017	1.013	1.022	0.991	1.000	1.000	1.000
Cumulative	1.132	1.043	1.026	1.013	0.991	1.000	1.000	1.000

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

Accident Year	Incurred ALAE at 12/31/13	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	297
1986				270	505
1987				652	1,056
1988				235	357
1989				2,727	3,528
1990				119	225
1991				403	729
1992				270	554
1993				806	1,375
1994				192	507
1995				698	903
1996				355	582
1997				892	1,343
1998				3,920	4,732
1999				1,757	2,388
2000				1,209	1,885
2001				1,207	1,880
2002				3,643	5,226
2003	3,239	1.000		3,239	5,122
2004	844	1.000		844	1,471
2005	15,229	1.000		15,229	20,231
2006	860	1.000		860	1,110
2007	2,490	1.000		2,490	4,949
2008	92,426	0.999		92,334	332,990
2009	223	0.964		215	2,232
2010	316	0.963		304	4,322
2011	609	0.948		577	15,065
2012	679	0.976		663	15,735
2013	802	1.122		900	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
Commercial Property - Wind & Hail
Rate Level Review

Incurred ALAE Development Factors
 TWIA Schedule P Incurred ALAE (Including IBNR)

Accident Year	<u>Months of Development</u>							
	12	24	36	48	60	72	84	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(8)
2003		2,882	3,017	3,133	3,235	3,254	3,255	3,239
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	2,490
2008		167,316	139,787	106,761	111,632	120,296	92,426	
2009		7,335	359	226	231	223		
2010		391	312	322	316			
2011		515	592	609				
2012		516	679					
2013		802						

Accident Year	<u>Development Factors</u>							
	12 - 24	24 - 36	36 - 48	48 - 60	60 - 72	72 - 84	84 - Ult	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
2003		1.047	1.038	1.033	1.006	1.000	0.995	
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		
2009		0.049	0.630	1.022	0.965			
2010		0.798	1.032	0.981				
2011		1.150	1.029					
2012		1.316						

Average		1.00	0.95	0.97	1.00	0.96	1.00	
Avg x hi / lo		1.07	0.97	0.98	0.99	1.00	1.00	
Avg 3 Year		1.09	0.90	1.02	1.01	0.92	1.00	
Avg 5 Year		0.83	0.88	0.98	0.99	0.95	1.00	
Prior		0.92	0.92	0.97	1.00	1.00	1.00	1.00
Selected		1.15	1.03	0.98	1.00	0.97	1.00	1.00
Cumulative		1.12	0.98	0.95	0.96	0.96	1.00	1.00

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

Basis for Hurricane Loss Ratio	Indicated Loss Ratio	LAE Factor	Indicated Loss & LAE Ratio
(1)	(2)	(3)	(4)
Industry Experience	42.3%	0.121	47.4%
<u>Hurricane Models</u>			
AIR Model	44.1%	0.121	49.4%
RMS Model	47.4%	0.121	53.1%
Average of Models	45.8%	0.121	51.3%

Notes:

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

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Industry Experience -- Commercial Extended Coverage
1970 - 2013 -- Hurricane Years Only

Accident Year	Earned Premium at Current TWIA Rate Level	Incurred Loss Ratio
(1)	(2)	(3)
1970	50,410,397	45.8%
1971	54,456,584	102.6%
1980	60,505,416	77.2%
1983	35,491,001	342.2%
1986	45,735,238	10.8%
1989	72,480,300	6.3%
1990	61,658,339	90.3%
1999	142,216,289	10.5%
2003	193,925,481	29.9%
2005	276,573,656	220.0%
2007	388,164,176	3.7%
2008	365,540,423	477.3%
<hr/>		
(4)	Simple Average Loss Ratio for Hurricane Years	118.1%
(5)	Selected Non-Hurricane Loss Ratio	8.9%
(6)	Average Hurricane Loss Ratio for Hurricane Years	109.2%
(7)	Historical Hurricane Frequency	
	(a) 44.3-Year (10/1/1969 - 12/31/2013)	0.293 (1 Hurricane Every 3.4 years)
	(b) 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	42.3%

Notes:

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

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

Industry Experience -- Commercial Extended Coverage
1970 - 2013

Accident Year	Earned Premium	Earned Premium at 1992 CMR	Earned Premium at Current Rates	Incurred Losses	Incurred Loss Ratio	Hurricane Indicator
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1970	10,874,210	18,835,352	50,410,397	23,092,142	45.8%	H
1971	13,340,143	20,347,170	54,456,584	55,893,676	102.6%	H
1972	18,906,678	24,314,307	65,074,116	8,704,522	13.4%	
1973	21,737,541	23,257,532	62,245,793	3,837,493	6.2%	
1974	22,348,193	22,844,661	61,140,797	2,193,087	3.6%	
1975	24,396,629	24,958,305	66,797,693	3,943,412	5.9%	
1976	26,795,934	24,109,943	64,527,162	2,218,115	3.4%	
1977	30,910,821	27,119,226	72,581,121	1,898,346	2.6%	
1978	32,709,599	26,415,338	70,697,255	2,535,872	3.6%	
1979	31,306,685	24,514,306	65,609,387	4,535,147	6.9%	
1980	28,751,765	22,607,257	60,505,416		77.2%	H
1981	24,129,384	21,398,588	57,262,621		9.4%	
1982	18,505,004	17,523,231	46,892,167		3.6%	
1983	12,680,397	13,262,706	35,491,001		342.2%	H
1984	12,736,031	14,992,627	40,120,270		9.3%	
1985	15,169,575	16,422,895	43,947,667		4.4%	
1986	21,130,682	17,090,896	45,735,238		10.8%	H
1987	31,114,529	26,771,157	71,639,616		1.7%	
1988	25,065,531	24,117,319	64,537,945		9.6%	
1989	24,167,085	27,085,314	72,480,300		6.3%	H
1990	19,677,404	23,041,233	61,658,339		90.3%	H
1991	21,794,680	25,534,881	68,331,342		70.9%	
1992	23,737,753	26,950,473	72,119,465		1.8%	
1993	21,990,182		58,845,728		6.3%	
1994	16,604,950		44,434,846		12.6%	
1995	32,374,229		86,633,437		27.3%	
1996	55,367,089		148,162,330		3.0%	
1997	53,196,024		142,352,560		4.5%	
1998	53,986,058		145,361,073		17.0%	
1999	52,435,243		142,216,289		10.5%	H
2000	41,739,697		111,083,535		10.0%	
2001	42,330,042		110,075,068		6.7%	
2002	69,156,402		176,164,086		14.3%	
2003	78,368,305		193,925,481		29.9%	H
2004	112,957,791		271,154,937		2.2%	
2005	119,598,806		276,573,656		220.0%	H
2006	148,019,940		328,690,853		2.3%	
2007	186,853,098		388,164,176		3.7%	H
2008	180,008,011		365,540,423		477.3%	H
2009	193,672,354		381,291,515		2.4%	
2010	201,245,742		390,922,060		5.6%	
2011	199,106,765		386,398,048		13.9%	
2012	230,408,157		447,568,572		13.9%	
2013	254,871,359		493,239,050		5.9%	
Total / Average	2,856,276,497		6,463,059,415		39.9%	
Average of Non-Hurricane Years					9.6%	
Average of Non-Hurricane Years Excluding 1991					8.1%	
Selected					8.9%	

Notes: (2) Provided by TDI. 1970 - 1994 are year ending 9/30/xx as of 12/31/99; 1995 - 2008 are year ending 12/31/xx as of 12/31/13
(3) Provided by TDI (1992 MR = 1992 manual rates)
(4) 1980 - 2008: Sum of Exhibit 6, Sheet 4 - Sheet 7, (5); 1970 - 1979: (3) * 2.676
(5) Provided by TDI. 1980 - 1994 are year ending 9/30/xx as of 12/31/99; 1995 - 2008 are year ending 12/31/xx as of 12/31/13
(6) 1980 - 2008: Exhibit 6, Sheet 3; 1970 - 1979: (5) / (4)
(7) "H" indicates occurrence of hurricane(s) during the time period

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

Accident Year	<u>Loss Ratios by Territory / Tier</u>					Weighted Loss Ratio
	Territory 8 (1)	Territory 9 (2)	Territory 10 (3)	Tier 2 (4)	Tier 2 (5)	
1981		18.2%	5.8%	5.3%	6.5%	9.4%
1982		2.2%	3.7%	4.4%	5.9%	3.6%
1983		1017.3%	4.4%	47.3%	170.4%	342.2%
1984		8.7%	4.4%	11.2%	16.3%	9.3%
1985		4.2%	2.9%	5.0%	9.1%	4.4%
1986		3.4%	1.1%	18.4%	14.4%	10.8%
1987		0.5%	1.9%	2.4%	3.5%	1.7%
1988		13.3%	3.9%	9.3%	5.5%	9.6%
1989		15.4%	2.0%	2.2%	6.3%	6.3%
1990		272.7%	2.9%	10.2%	7.8%	90.3%
1991		24.6%	24.4%	115.7%	5.3%	70.9%
1992		0.9%	1.1%	2.5%	4.4%	1.8%
1993		15.6%	2.0%	2.0%	6.5%	6.3%
1994		0.4%	4.3%	22.7%	9.2%	12.6%
1995		9.0%	12.0%	43.5%	23.8%	27.3%
1996		1.7%	3.3%	3.6%	7.7%	3.0%
1997		6.1%	2.3%	4.2%	10.5%	4.5%
1998		24.0%	15.9%	13.3%	10.6%	17.0%
1999		3.1%	14.6%	13.7%	10.7%	10.5%
2000		2.4%	2.3%	15.9%	67.3%	10.0%
2001		8.1%	3.6%	6.4%	30.8%	6.7%
2002		13.5%	35.4%	8.0%	9.9%	14.3%
2003		2.7%	9.3%	53.2%	29.7%	29.9%
2004		3.3%	0.7%	2.1%	2.7%	2.2%
2005		77.1%	1.8%	382.2%	40.3%	220.0%
2006		2.6%	1.1%	2.5%	4.2%	2.3%
2007		1.9%	1.2%	5.5%	6.5%	3.7%
2008		784.0%	36.7%	439.8%	298.8%	477.3%
2009		2.9%	4.5%	1.4%	5.7%	2.4%
2010		1.7%	4.3%	8.4%	1.8%	5.6%
2011		4.5%	28.6%	14.8%	8.8%	13.9%
2012		13.7%	21.8%	11.6%	4.7%	13.9%
2013		15.3%	4.8%	0.7%	3.0%	5.9%
Average		72.0%	8.2%	39.1%	25.7%	43.9%

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	31.01%	16.79%	51.12%	1.08%	100.00%

Notes:

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

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

Industry Experience -- Commercial Extended Coverage
Tier 1 -- Territory 8 (Galveston County)

Accident Year	Earned Premium	Earned Premium at 1992 MR	TWIA Factor to Current Rate Level	Earned Premium at Current Rates	Incurred Loss	Incurred Loss Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1981	2,387,015	2,241,676	2.676	5,998,725	1,089,270	18.2%
1982	1,604,454	1,510,804	2.676	4,042,912	88,884	2.2%
1983	913,865	968,224	2.676	2,590,967	26,357,425	1017.3%
1984	1,195,339	1,366,667	2.676	3,657,201	318,455	8.7%
1985	2,581,481	2,777,593	2.676	7,432,839	314,878	4.2%
1986	3,013,362	2,349,181	2.676	6,286,408	211,282	3.4%
1987	3,004,153	2,585,122	2.676	6,917,786	37,480	0.5%
1988	2,905,355	2,728,206	2.676	7,300,679	969,836	13.3%
1989	2,825,114	3,015,974	2.676	8,070,746	1,244,199	15.4%
1990	2,303,321	2,474,141	2.676	6,620,801	18,053,460	272.7%
1991	2,203,500	2,080,579	2.676	5,567,629	1,371,244	24.6%
1992	2,352,391	2,012,473	2.676	5,385,378	46,331	0.9%
1993	2,406,016		2.676	6,438,499	1,005,945	15.6%
1994	2,807,090		2.676	7,511,773	28,034	0.4%
1995	2,645,757		2.676	7,080,046	635,625	9.0%
1996	5,519,716		2.676	14,770,760	249,644	1.7%
1997	5,461,636		2.676	14,615,338	886,485	6.1%
1998	6,133,105		2.717	16,663,646	3,994,564	24.0%
1999	6,706,028		2.759	18,501,931	575,316	3.1%
2000	4,997,201		2.640	13,192,611	320,131	2.4%
2001	4,785,262		2.482	11,877,020	962,576	8.1%
2002	8,206,069		2.375	19,489,414	2,632,325	13.5%
2003	8,793,047		2.208	19,415,048	529,845	2.7%
2004	12,425,339		2.007	24,937,655	830,387	3.3%
2005	13,835,672		1.825	25,250,101	19,469,845	77.1%
2006	18,399,428		1.691	31,113,433	812,370	2.6%
2007	24,920,450		1.533	38,203,050	713,074	1.9%
2008	25,003,927		1.448	36,205,686	283,857,125	784.0%
2009	29,451,888		1.319	38,847,040	1,143,669	2.9%
2010	31,807,162		1.216	38,677,509	669,882	1.7%
2011	31,640,767		1.186	37,525,950	1,675,263	4.5%
2012	36,309,346		1.129	40,993,252	5,623,021	13.7%
2013	39,546,020		1.076	42,551,518	6,515,291	15.3%
Total	309,544,256			573,733,351	383,233,161	66.8%

Notes:

- (2) Provided by TDI. 1981 - 1995 are year ending 9/30/xx as of 12/31/99; 1996 - 2009 are year ending 12/31/xx as of 12/31/13
- (3) Provided by TDI (1992 MR = 1992 manual rates)
- (4) Represents 1/1/98 through 2/1/08 rate changes for TWIA; factors assume uniform earning of written premium and that TWIA premium represents 100.0% of industry data in Tier 1 -- Territory 8
- (5) = (3) * (4) for 1981 - 1993; (2) * (4) for 1994 - 2009
- (6) Provided by TDI. 1981 - 1995 are year ending 9/30/xx as of 12/31/99; 1996 - 2009 are year ending 12/31/xx as of 12/31/13
- (7) = (6) / (5)

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

Accident Year	Earned Premium	Earned Premium at 1992 MR	TWIA Factor to Current Rate Level	Earned Premium at Current Rates	Incurred Loss	Incurred Loss Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1981	1,367,219	1,286,028	2.676	3,441,411	200,989	5.8%
1982	1,347,308	1,333,262	2.676	3,567,809	132,668	3.7%
1983	745,985	820,826	2.676	2,196,530	96,051	4.4%
1984	558,639	652,809	2.676	1,746,917	76,481	4.4%
1985	1,235,059	1,383,103	2.676	3,701,184	106,148	2.9%
1986	2,228,911	1,849,840	2.676	4,950,172	56,387	1.1%
1987	2,381,538	2,086,940	2.676	5,584,651	105,275	1.9%
1988	1,796,653	1,719,227	2.676	4,600,651	181,414	3.9%
1989	1,632,453	1,826,430	2.676	4,887,527	98,116	2.0%
1990	1,429,526	1,769,972	2.676	4,736,445	135,678	2.9%
1991	1,390,109	1,555,310	2.676	4,162,010	1,013,636	24.4%
1992	1,571,433	1,629,721	2.676	4,361,133	49,512	1.1%
1993	1,587,772		2.676	4,248,878	86,000	2.0%
1994	2,203,514		2.676	5,896,603	254,088	4.3%
1995	2,669,951		2.676	7,144,789	854,753	12.0%
1996	5,639,923		2.676	15,092,434	502,177	3.3%
1997	3,183,758		2.676	8,519,736	199,390	2.3%
1998	3,613,310		2.710	9,792,070	1,561,275	15.9%
1999	6,808,428		2.744	18,682,326	2,735,082	14.6%
2000	5,167,158		2.647	13,677,467	317,804	2.3%
2001	4,763,324		2.517	11,989,287	431,244	3.6%
2002	8,479,915		2.429	20,597,714	7,300,265	35.4%
2003	9,934,549		2.292	22,769,986	2,122,879	9.3%
2004	14,597,450		2.128	31,063,374	212,644	0.7%
2005	16,117,612		1.978	31,880,637	566,758	1.8%
2006	21,261,470		1.869	39,737,687	434,362	1.1%
2007	27,769,330		1.739	48,290,865	571,169	1.2%
2008	28,065,434		1.669	46,841,209	17,167,543	36.7%
2009	30,047,332		1.563	46,963,980	2,093,422	4.5%
2010	28,494,752		1.479	42,143,738	1,800,223	4.3%
2011	26,057,690		1.454	37,887,881	10,844,264	28.6%
2012	27,778,622		1.408	39,112,300	8,526,039	21.8%
2013	29,382,822		1.364	40,078,169	1,937,454	4.8%
Total	291,926,127			550,269,401	60,833,736	11.1%

Notes:

- (2) Provided by TDI. 1981 - 1995 are year ending 9/30/xx as of 12/31/99; 1996 - 2009 are year ending 12/31/xx as of 12/31/13
- (3) Provided by TDI (1992 MR = 1992 manual rates)
- (4) Represents 1/1/98 through 2/1/08 rate changes for TWIA; factors assume uniform earning of written premium and that TWIA premium represents 82.0% of industry data in Tier 1 -- Territory 9
- (5) = (3) * (4) for 1981 - 1993; (2) * (4) for 1994 - 2009
- (6) Provided by TDI. 1981 - 1995 are year ending 9/30/xx as of 12/31/99; 1996 - 2009 are year ending 12/31/xx as of 12/31/13
- (7) = (6) / (5)

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

Exhibit 6
Sheet 6

Accident Year	Earned Premium	Earned Premium at 1992 MR	TWIA Factor to Current Rate Level	Earned Premium at Current Rates	Incurred Loss	Incurred Loss Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1981	4,418,649	3,950,311	2.676	10,571,032	555,175	5.3%
1982	4,012,396	3,832,674	2.676	10,256,236	453,010	4.4%
1983	3,769,988	4,139,464	2.676	11,077,206	5,242,728	47.3%
1984	4,835,650	5,883,059	2.676	15,743,066	1,759,233	11.2%
1985	3,637,366	3,997,227	2.676	10,696,579	534,724	5.0%
1986	4,787,352	3,948,102	2.676	10,565,121	1,943,819	18.4%
1987	5,996,981	5,352,970	2.676	14,324,548	338,938	2.4%
1988	5,872,305	5,768,621	2.676	15,436,830	1,442,599	9.3%
1989	5,125,436	5,918,163	2.676	15,837,004	349,413	2.2%
1990	3,842,130	4,624,825	2.676	12,376,032	1,263,817	10.2%
1991	4,253,902	4,765,878	2.676	12,753,490	14,752,702	115.7%
1992	4,034,147	4,187,015	2.676	11,204,452	276,158	2.5%
1993	4,540,606		2.676	12,150,662	245,603	2.0%
1994	5,145,260		2.676	13,768,716	3,130,886	22.7%
1995	9,324,050		2.676	24,951,158	10,852,486	43.5%
1996	15,331,047		2.676	41,025,882	1,478,175	3.6%
1997	17,116,368		2.676	45,803,401	1,911,482	4.2%
1998	17,623,413		2.704	47,653,709	6,340,723	13.3%
1999	15,019,386		2.733	41,047,982	5,614,569	13.7%
2000	11,756,138		2.652	31,177,278	4,969,254	15.9%
2001	11,140,104		2.542	28,318,144	1,824,700	6.4%
2002	20,528,832		2.468	50,665,157	4,053,342	8.0%
2003	23,885,668		2.353	56,202,977	29,908,218	53.2%
2004	31,412,192		2.215	69,578,005	1,462,655	2.1%
2005	34,078,299		2.089	71,189,567	272,075,164	382.2%
2006	46,498,256		1.997	92,857,017	2,319,049	2.5%
2007	71,991,189		1.888	135,919,365	7,543,317	5.5%
2008	66,823,921		1.830	122,287,775	537,855,752	439.8%
2009	67,125,389		1.741	116,865,302	1,683,004	1.4%
2010	65,626,359		1.669	109,530,393	9,177,438	8.4%
2011	64,680,579		1.649	106,658,275	15,803,252	14.8%
2012	71,560,193		1.610	115,211,911	13,370,499	11.6%
2013	77,374,701		1.573	121,710,405	886,153	0.7%
Total	725,793,551			1,605,414,677	961,418,037	59.9%

Notes:

- (2) Provided by TDI. 1981 - 1995 are year ending 9/30/xx as of 12/31/99; 1996 - 2009 are year ending 12/31/xx as of 12/31/13
- (3) Provided by TDI (1992 MR = 1992 manual rates)
- (4) Represents 1/1/98 through 2/1/08 rate changes for TWIA; factors assume uniform earning of written premium and that TWIA premium represents 68.9% of industry data in Tier 1 -- Territory 10
- (5) = (3) * (4) for 1981 - 1993; (2) * (4) for 1994 - 2009
- (6) Provided by TDI. 1981 - 1995 are year ending 9/30/xx as of 12/31/99; 1996 - 2009 are year ending 12/31/xx as of 12/31/13
- (7) = (6) / (5)

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

AY Ending	Earned Premium	Earned Premium at 1992 MR	TWIA Factor to Current Rate Level	Earned Premium at Current Rates	Incurred Loss	Incurred Loss Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1981	15,956,501	13,920,573	2.676	37,251,453	2,427,294	6.5%
1982	11,540,846	10,846,491	2.676	29,025,210	1,700,638	5.9%
1983	7,250,559	7,334,192	2.676	19,626,298	33,451,768	170.4%
1984	6,146,403	7,090,092	2.676	18,973,086	3,096,573	16.3%
1985	7,715,669	8,264,972	2.676	22,117,065	2,019,280	9.1%
1986	11,101,057	8,943,773	2.676	23,933,537	3,439,343	14.4%
1987	19,731,857	16,746,125	2.676	44,812,631	1,552,595	3.5%
1988	14,491,218	13,901,265	2.676	37,199,785	2,041,063	5.5%
1989	14,584,082	16,324,747	2.676	43,685,023	2,746,147	6.3%
1990	12,102,427	14,172,295	2.676	37,925,061	2,967,816	7.8%
1991	13,947,169	17,133,114	2.676	45,848,213	2,440,246	5.3%
1992	15,779,782	19,121,264	2.676	51,168,502	2,232,412	4.4%
1993	13,455,788		2.676	36,007,689	2,357,383	6.5%
1994	6,449,086		2.676	17,257,754	1,579,205	9.2%
1995	17,734,471		2.676	47,457,444	11,314,057	23.8%
1996	28,876,403		2.676	77,273,254	5,938,855	7.7%
1997	27,434,262		2.676	73,414,085	7,691,121	10.5%
1998	26,616,230		2.677	71,251,648	7,574,576	10.6%
1999	23,901,401		2.677	63,984,050	6,821,707	10.7%
2000	19,819,200		2.676	53,036,179	35,670,537	67.3%
2001	21,641,352		2.675	57,890,617	17,852,673	30.8%
2002	31,941,586		2.674	85,411,801	8,461,924	9.9%
2003	35,755,041		2.672	95,537,470	28,411,179	29.7%
2004	54,522,810		2.670	145,575,903	3,982,223	2.7%
2005	55,567,223		2.668	148,253,351	59,672,845	40.3%
2006	61,860,786		2.667	164,982,716	6,975,659	4.2%
2007	62,172,129		2.666	165,750,896	10,848,562	6.5%
2008	60,114,729		2.665	160,205,753	478,627,876	298.8%
2009	67,047,745		2.664	178,615,193	10,217,816	5.7%
2010	75,317,469		2.663	200,570,420	3,634,883	1.8%
2011	76,727,729		2.663	204,325,942	17,992,455	8.8%
2012	94,759,996		2.662	252,251,109	11,896,760	4.7%
2013	108,567,816		2.661	288,898,958	8,783,485	3.0%
Total	984,565,659			2,999,518,096	806,420,956	26.9%

Notes:

- (2) Provided by TDI. 1981 - 1995 are year ending 9/30/xx as of 12/31/99; 1996 - 2009 are year ending 12/31/xx as of 12/31/13
- (3) Provided by TDI (1992 MR = 1992 manual rates)
- (4) Represents 1/1/98 through 2/1/08 rate changes for TWIA; factors assume uniform earning of written premium and that TWIA premium represents 0.9% of industry data in Tier 2
- (5) = (3) * (4) for 1981 - 1993; (2) * (4) for 1994 - 2009
- (6) Provided by TDI. 1981 - 1995 are year ending 9/30/xx as of 12/31/99; 1996 - 2009 are year ending 12/31/xx as of 12/31/13
- (7) = (6) / (5)

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

County	TWIA Insured Values (000s) as of 12/31/13	Modeled Loss Cost	Expected Annual Hurricane Loss
(1)	(2)	(3)	(4)
Aransas	434,173	4.675	2,029,759
Brazoria	1,433,716	2.252	3,228,728
Calhoun	146,017	2.572	375,556
Cameron	1,891,996	2.682	5,074,333
Chambers	94,245	1.964	185,097
Galveston	3,706,286	6.944	25,736,450
Harris	138,283	3.904	539,857
Jefferson	1,281,186	2.211	2,832,702
Kenedy	1,451	1.403	2,036
Kleberg	115,085	0.817	94,024
Matagorda	180,068	2.520	453,771
Nueces	3,106,337	3.470	10,778,989
Refugio	27,213	1.458	39,677
San Patricio	393,288	2.549	1,002,491
Willacy	34,263	1.818	62,290
Total	12,983,607	4.039	52,435,760
(5) 2014 Earned Premium at Present Rates			118,861,064
(6) Indicated Hurricane Loss Ratio			44.1%

Notes:

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

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

County	TWIA Insured Values (000s) as of 12/31/13	Average Annual Modeled Loss	Provision for Storm Surge	Modeled Loss Cost
(1)	(2)	(3)	(4)	(5)
Aransas	434,173	2,021,680	1.004	4.675
Brazoria	1,433,716	3,215,719	1.004	2.252
Calhoun	146,017	374,028	1.004	2.572
Cameron	1,891,996	5,053,289	1.004	2.682
Chambers	94,245	184,373	1.004	1.964
Galveston	3,706,286	25,632,904	1.004	6.944
Harris	138,283	537,723	1.004	3.904
Jefferson	1,281,186	2,820,819	1.004	2.211
Kenedy	1,451	2,027	1.004	1.403
Kleberg	115,085	93,695	1.004	0.817
Matagorda	180,068	452,001	1.004	2.520
Nueces	3,106,337	10,734,870	1.004	3.470
Refugio	27,213	39,515	1.004	1.458
San Patricio	393,288	998,600	1.004	2.549
Willacy	34,263	62,027	1.004	1.818
Total	12,983,607	52,223,270	1.004	4.038

Notes:

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

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

County	TWIA Insured Values (000s) as of 12/31/13	Modeled Loss Cost	Expected Annual Hurricane Loss
(1)	(2)	(3)	(4)
Aransas	392,289	3.936	1,544,050
Brazoria	1,426,208	3.347	4,773,518
Calhoun	194,013	4.635	899,250
Cameron	1,891,996	4.005	7,577,444
Chambers	110,429	3.319	366,514
Galveston	3,713,793	6.156	22,862,110
Harris	121,484	4.540	551,537
Jefferson	1,281,800	3.052	3,912,054
Kenedy	1,451	2.506	3,636
Kleberg	115,085	1.831	210,721
Matagorda	179,643	3.707	665,937
Nueces	3,106,509	3.775	11,727,071
Refugio	27,213	2.607	70,944
San Patricio	387,428	2.881	1,116,180
Willacy	34,263	2.852	97,718
Total	12,983,604	4.342	56,378,684
(5) 2014 Earned Premium at Present Rates			118,861,064
(6) Indicated Hurricane Loss Ratio			47.4%

Notes:

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

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

County	TWIA Insured Values (000s) as of 12/31/13	Average Annual Modeled Loss	Provision for Storm Surge	Modeled Loss Cost
(1)	(2)	(3)	(4)	(5)
Aransas	392,289	1,516,833	1.018	3.936
Brazoria	1,426,208	4,689,284	1.018	3.347
Calhoun	194,013	883,368	1.018	4.635
Cameron	1,891,996	7,444,390	1.018	4.005
Chambers	110,429	360,048	1.018	3.319
Galveston	3,713,793	22,459,399	1.018	6.156
Harris	121,484	541,769	1.018	4.540
Jefferson	1,281,800	3,842,522	1.018	3.052
Kenedy	1,451	3,572	1.018	2.506
Kleberg	115,085	207,036	1.018	1.831
Matagorda	179,643	654,118	1.018	3.707
Nueces	3,106,509	11,519,731	1.018	3.775
Refugio	27,213	69,697	1.018	2.607
San Patricio	387,428	1,096,286	1.018	2.881
Willacy	34,263	96,001	1.018	2.852
Total	12,983,604	55,384,054	1.018	4.342

Notes:

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

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Texas Hurricanes 1850 - 2013

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

Frequency	Date Period	Hurricanes	Period	Annual Frequency
44.3-Year	10/1/1969 - 12/31/2013	13	44.3	0.293
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
Commercial Property - Wind & Hail
Rate Level Review**

Exhibit 10
Sheet 1

Calculation of Earned Premium at Present Rate Level

Year	TWIA Written Premium	Factor to Current Rate Level	Written Premium at Current Rate Level	Earned Premium at Current Rate Level
(1)	(2)	(3)	(4)	(5)
1991	7,329,258	2.058	15,083,613	15,083,613
1992	7,048,820	2.676	18,862,642	16,973,128
1993	9,185,541	2.676	24,580,508	21,721,575
1994	10,672,677	2.676	28,560,084	26,570,296
1995	12,865,905	2.676	34,429,162	31,494,623
1996	15,640,660	2.676	41,854,406	38,141,784
1997	16,536,186	2.676	44,250,834	43,052,620
1998	16,558,977	2.759	45,686,218	44,968,526
1999	17,394,142	2.759	47,990,438	46,838,328
2000	17,332,561	2.531	43,868,712	45,929,575
2001	17,544,251	2.434	42,702,707	43,285,710
2002	24,013,525	2.318	55,663,351	49,183,029
2003	29,220,514	2.108	61,596,844	58,630,098
2004	31,009,323	1.916	59,413,863	60,505,354
2005	35,740,174	1.741	62,223,643	60,818,753
2006	76,847,840	1.616	124,186,109	93,204,876
2007	110,951,718	1.481	164,319,494	144,252,802
2008	98,037,185	1.411	138,330,468	151,324,981
2009	111,269,480	1.229	136,750,191	137,540,330
2010	102,171,553	1.215	124,138,437	130,444,314
2011	100,011,848	1.158	115,813,720	119,976,079
2012	110,524,395	1.103	121,908,407	118,861,064
2013	113,035,972	1.050	118,687,771	120,298,089
Total	767,370,290		1,314,491,724	1,259,964,315

Notes:

(2) Provided by TWIA, 1992 reflects adjustment for rate change applied to in-force policies

(3) Exhibit 10, Sheet 2

(4) = (2) * (3) (calculated on a monthly basis)

(5) Calculated from (4), using annual uniform earning assumption for 1999 and prior and monthly for 2000 and after

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

Year	Rate Level in Effect			Cumulative Rate Level				# Months				Average Rate Level	Factor to Current Rate Level	
	Applicable Rates													
(1)	(1)	(2)	(3)	E.O.Y.	B.O.Y.	(6)	(7)	E.O.Y.	B.O.Y.	(10)	(11)	E.O.Y.	(13)	(14)
1980	Prior			8/1/1980	1.000			1.175	7.0			5.0	1.073	4.006
1981	8/1/1980			9/1/1981	1.175			1.132	8.0			4.0	1.161	3.702
1982	9/1/1981			9/1/1982	1.132			1.428	8.0			4.0	1.231	3.491
1983	9/1/1982			10/10/1983	1.428			1.514	9.3			2.7	1.447	2.970
1984	10/10/1983			10/10/1983	1.514			1.514	12.0			0.0	1.514	2.839
1985	10/10/1983	3/1/1985	3/15/1985	11/15/1985	1.514	1.892	2.428	2.651	2.0	0.5	8.0	1.5	2.281	1.884
1986	11/15/1985			11/15/1985	2.651			2.651	12.0			0.0	2.651	1.621
1987	11/15/1985			7/1/1987	2.651			2.407	6.0			6.0	2.529	1.699
1988	7/1/1987			11/1/1988	2.407			2.075	10.0			2.0	2.352	1.827
1989	11/1/1988			11/1/1988	2.075			2.075	12.0			0.0	2.075	2.071
1990	11/1/1988			3/1/1990	2.075			2.104	2.0			10.0	2.099	2.048
1991	3/1/1990			4/1/1991	2.104			2.083	3.0			9.0	2.088	2.058
1992	1/1/1992			1/1/1992	1.606			1.606	12.0			0.0	1.606	2.676
1993	1/1/1992			10/1/1993	1.606			1.606	9.0			3.0	1.606	2.676
1994	10/1/1993			10/1/1993	1.606			1.606	12.0			0.0	1.606	2.676
1995	10/1/1993			10/1/1993	1.606			1.606	12.0			0.0	1.606	2.676
1996	10/1/1993			10/1/1993	1.606			1.606	12.0			0.0	1.606	2.676
1997	10/1/1993			10/1/1993	1.606			1.606	12.0			0.0	1.606	2.676
1998	1/1/1998			1/1/1998	1.558			1.558	12.0			0.0	1.558	2.759
1999	1/1/1998			1/1/1998	1.558			1.558	12.0			0.0	1.558	2.759
2000	1/1/2000			1/1/2000	1.698			1.698	12.0			0.0	1.698	2.531
2001	1/1/2001			1/1/2001	1.766			1.766	12.0			0.0	1.766	2.434
2002	1/1/2002			1/1/2002	1.854			1.854	12.0			0.0	1.854	2.318
2003	1/1/2003			1/1/2003	2.039			2.039	12.0			0.0	2.039	2.108
2004	1/1/2004			1/1/2004	2.243			2.243	12.0			0.0	2.243	1.916
2005	1/1/2005			1/1/2005	2.468			2.468	12.0			0.0	2.468	1.741
2006	1/1/2006			9/1/2006	2.591			2.798	8.0			4.0	2.660	1.616
2007	1/1/2007			1/1/2007	2.902			2.902	12.0			0.0	2.902	1.481
2008	1/1/2007			2/1/2008	2.902			3.059	1.0			11.0	3.046	1.411
2009	2/1/2008			2/1/2009	3.059			3.536	1.0			11.0	3.496	1.229
2010	2/1/2009			2/1/2009	3.536			3.536	12.0			0.0	3.536	1.215
2011	1/1/2011			1/1/2011	3.713			3.713	12.0			0.0	3.713	1.158
2012	1/1/2012			1/1/2012	3.898			3.898	12.0			0.0	3.898	1.103
2013	1/1/2013			1/1/2013	4.093			4.093	12.0			0.0	4.093	1.050
2014	1/1/2014			1/1/2014	4.298			4.298	12.0			0.0	4.298	1.000
Current				1/1/2014				4.298					4.298	1.000

Notes:

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

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

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

Notes:

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

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

Expense Category	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
Commercial 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	33,857,831
(5) Net Cost of Reinsurance	77,390,907
(6) TWIA 2014 Earned Premium at Present Rates	492,087,832
(7) 2014 - 2015 TWIA Prospective Earned Premium at Present Rates	501,978,237
(8) Indicated Reinsurance Expense %	15.4%

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) ^ 0.917]
- (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) ^ 0.417] (projected premium growth from 7/1/2014 to 12/1/2014)
- (8) = (5) / (7)

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

Accident Year	TWIA Provided Paid Loss			Schedule P	
	Commercial & Farm	Residential	Total	Direct & Assumed Paid Loss	Difference
(1)	(2)	(3)	(4)	(5)	(6)
2004	614,079	4,557,394	5,171,473	5,167,000	4,473
2005	71,174,473	83,698,540	154,873,013	154,859,000	14,013
2006	1,517,386	2,758,503	4,275,889	4,276,000	(111)
2007	5,610,638	10,190,834	15,801,472	15,725,000	76,472
2008	836,386,418	1,706,507,787	2,542,894,205	2,383,872,000	159,022,205
2009	2,553,456	8,412,859	10,966,315	10,122,000	844,315
2010	7,280,462	10,830,115	18,110,577	16,687,000	1,423,577
2011	18,434,518	76,320,157	94,754,675	87,917,000	6,837,675
2012	11,404,312	51,440,783	62,845,095	47,525,000	15,320,095
2013	6,886,092	60,275,645	67,161,737	67,141,000	20,737
Total	961,861,834	2,014,992,617	2,976,854,451	2,793,291,000	183,563,451

Notes:

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

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

Calendar Year	TWIA Provided Written Premium			Annual Statement Gross	
	Commercial	Residential	Total	Written Premium	Difference
(1)	(2)	(3)	(4)	(5)	(6)
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 12/31/2014
- (4) = (2) + (3)
- (5) Based on TWIA Annual Statements
- (6) = (4) - (5)

Texas Windstorm Insurance Association
Commercial Property - Wind & Hail
Rate Level Review
Analysis of Current and Proposed Net Premium Income

Exhibit 13

Premiums and Rate Components	<u>TWIA Indications at Current Rates</u>			<u>TWIA Indications at Proposed Rates</u>		
	Commercial	Residential	Total	Commercial	Residential	Total
(1) 2015 Written Premium	132,628,165	392,705,220	525,333,385	139,259,573	412,340,481	551,600,054
(2) 2015 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
Commercial Property - Wind & Hail
Rate Level Review
Current and Proposed Rates
Rate Tables A and C

Table	Coinsurance	Rate Table A			Rate Table C		
		Current	Proposed	Change	Current	Proposed	Change
1 Frame (F)	50%	--	--	--	--	--	--
	80%	1.544	1.621	4.987%	1.239	1.300	4.923%
	100%	1.530	1.606	4.967%	1.221	1.282	4.996%
2 Brick (M)	50%	--	--	--	--	--	--
	80%	1.611	1.691	4.966%	1.313	1.378	4.950%
	100%	1.244	1.306	4.984%	1.000	1.050	5.000%
3 (HC)	50%	--	--	--	--	--	--
	80%	1.313	1.378	4.950%	1.048	1.100	4.962%
	100%	1.111	1.166	4.950%	0.865	0.908	4.971%
4 (WR)	50%	1.911	2.006	4.971%	--	--	--
	80%	1.183	1.242	4.987%	0.939	0.985	4.899%
	100%	1.130	1.186	4.956%	0.926	0.972	4.968%
(SWR)	50%	0.763	0.801	4.980%	--	--	--
	80%	0.479	0.502	4.802%	0.376	0.394	4.787%
	100%	0.447	0.469	4.922%	0.369	0.387	4.878%
5 Brick	50%	0.952	0.999	4.937%	--	--	--
	80%	0.583	0.612	4.974%	0.469	0.492	4.904%
	100%	0.564	0.592	4.965%	0.456	0.478	4.825%
5A Frame	50%	--	--	--	--	--	--
	80%	1.103	1.158	4.986%	0.546	0.573	4.945%
	100%	--	--	--	--	--	--
5B Brick Veneer	50%	--	--	--	--	--	--
	80%	1.325	1.391	4.981%	0.665	0.698	4.962%
	100%	--	--	--	--	--	--
7	50%	--	--	--	--	--	--
	80%	1.103	1.158	4.986%	0.546	0.573	4.945%
	100%	--	--	--	--	--	--
8	50%	--	--	--	--	--	--
	80%	3.755	3.942	4.980%	2.986	3.135	4.990%
	100%	3.228	3.389	4.988%	2.576	2.704	4.969%
9	50%	--	--	--	--	--	--
	80%	4.476	4.699	4.982%	3.584	3.763	4.994%
	100%	3.755	3.942	4.980%	3.003	3.153	4.995%
10	50%	--	--	--	--	--	--
	80%	5.359	5.626	4.982%	4.288	4.502	4.991%
	100%	4.392	4.611	4.986%	3.519	3.694	4.973%
11	50%	--	--	--	--	--	--
	80%	6.431	6.752	4.991%	5.147	5.404	4.993%
	100%	5.359	5.626	4.982%	4.288	4.502	4.991%
12	50%	--	--	--	--	--	--
	80%	8.347	8.764	4.996%	6.694	7.028	4.990%
	100%	7.065	7.418	4.996%	5.646	5.928	4.995%
13	50%	--	--	--	--	--	--
	80%	12.256	12.868	4.993%	9.788	10.277	4.996%
	100%	10.306	10.821	4.997%	8.246	8.658	4.996%
14	50%	--	--	--	--	--	--
	80%	16.704	17.539	4.999%	13.365	14.033	4.998%
	100%	14.067	14.770	4.998%	11.258	11.820	4.992%
14	50%	--	--	--	--	--	--
	80%	33.147	34.804	4.999%	26.523	27.849	4.999%
	100%	27.831	29.222	4.998%	22.260	23.373	5.000%

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

<u>Rate Table B</u>				
Table	Coinsurance	Current	Proposed	Change
	50%	--	--	
1	80%	0.917	0.962	4.907%
Frame (F)	100%	0.907	0.952	4.961%
	50%	--	--	
2	80%	0.964	1.012	4.979%
Brick (M)	100%	0.733	0.769	4.911%
	50%	--	--	
3	80%	0.777	0.815	4.891%
	100%	0.649	0.681	4.931%
	50%	1.130	1.186	4.956%
	80%	0.709	0.744	4.937%
(HC)	100%	0.675	0.708	4.889%
	50%	0.447	0.469	4.922%
4	80%	0.280	0.294	5.000%
(WR)	100%	0.271	0.284	4.797%
	50%	0.564	0.592	4.965%
	80%	0.355	0.372	4.789%
(SWR)	100%	0.342	0.359	4.971%

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

Territorial Multipliers for Miscellaneous Farm Property

Table	Coinsurance	Territory 1			Territories 8, 9, 10		
		Current	Proposed	Change	Current	Proposed	Change
15	80%	3.198	3.357	4.972%	3.536	3.712	4.977%
21	80%	3.829	4.020	4.988%	4.230	4.441	4.988%
22	80%	3.578	3.756	4.975%	3.943	4.140	4.996%
23	80%	2.721	2.857	4.998%	3.009	3.159	4.985%
24	80%	2.722	2.858	4.996%	3.009	3.159	4.985%

Territorial Multipliers for Barns and Outbuildings

Construction	Territory 1			Territories 8, 9, 10		
	Current	Proposed	Change	Current	Proposed	Change
Frame	5.260	5.523	5.000%	5.806	6.096	4.995%
Brick Veneer	5.397	5.666	4.984%	5.964	6.262	4.997%
Brick	4.511	4.736	4.988%	4.984	5.233	4.996%

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