TEXAS WINDSTORM INSURANCE ASSOCIATION
COMMERCIAL PROPERTY RATE LEVEL REVIEW
2013

June 2013

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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 12/31/12. 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	+29%
Actual Industry Experience	+26%
Hurricane Simulation Models	+32%

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 43 years of actual insurance industry premiums and losses and 162 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 6% less than the corresponding indication from the prior TWIA commercial rate study. A 5% rate increase, effective January 1, 2013, 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 15.6% 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 0.132 is equal to the weighted average of the nine hurricane years included in the analysis. For non-hurricane losses, the indicated ratio of 0.181 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 2003-2012 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 12/31/12 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 2003-2012 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 2003-2012 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 43 and 162 years, respectively. The other method is based on hurricane simulation models. The "43/162-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 43-year period is insufficient to measure long-term hurricane intensity.

- A 43-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 43/162-Year Industry Hurricane Experience

In Exhibit 6, Texas insurance industry seacoast dwelling extended coverage experience for the 1970-2012 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 (1980-2012), 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 43 years of loss ratios by separating the 43 years into the twelve hurricane years and thirty-one non-hurricane years. The 31 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: 125.3%.

The 43-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 43-year period is 0.3, while the annual frequency during the most recent 162-year period is 0.389. The 43-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 43-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 162-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 45.1%.

Hurricane Simulation Models

The projected hurricane loss ratio is determined by averaging two different hurricane simulation models: AIR CLASIC/2 v14.0 and RMS RiskLink v11.0. Both models were run using exposure data provided by TWIA as of 12/31/2012. 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 4,743 and 9,284 unique events, respectively, with the following distribution of intensity ratings in Texas:

Saffir-Simpson Category	AIR	RMS
Category 0	0%	4.9%
Category 1	40.9%	29.5%
Category 2	26.3%	16.0%
Category 3	22.7%	19.7%
Category 4	8.9%	23.8%
Category 5	1.2%	6.0%

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 46.5% and 50.7%. The average of these loss ratios is 48.6%.

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 62.0%.

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 15.6% 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 2005 and 2008 where relatively larger differences are indicated.

The written premium reconciliation shows the differences between the ratemaking written premium data and the annual statement data for calendar years 1990-2008. Differences of less than 1% exist for each year except 2010.

Key Differences Versus Prior Indications

The indicated rate change shown in this report is 6% less than the comparable indication based on the prior (December 2012) 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)		**+35%**
TWIA Rate Level	-6%	
Change in Experience Period	+0%	
Current Rate Indication (Combined Method)		**+29%**

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 2014 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 rate levels result in projected net premium income close to 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 – 39/158-Year Method
7	Hurricane Loss Ratio – AIR Model
8	Hurricane Loss Ratio – RMS Model
9	Texas Hurricanes 1899-2008
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

	Indicated Loss & LAE Ratio				Variable	Indicated	Proposed
Hurricane Projection Method	Hurricane	Non-Hurricane	Fixed Expenses	Total	Permissible LLAE Ratio	Rate Change	Rate Change
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Using Experience and Models	53.1%	6.9%	20.2%	80.2%	62.0%	+29%	+5.0%
Using Actual Industry Experience	51.1%	6.9%	20.2%	78.2%	62.0%	+26%	
Using Hurricane Models	55.0%	6.9%	20.2%	82.1%	62.0%	+32%	

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)
2003	5,790,403	0.181	0.887	6,065,719	55,915,414	10.8%
2004	614,079	0.181	0.933	676,637	57,618,793	1.2%
2005	2,335,331	0.181	0.916	2,526,352	57,924,611	4.4%
2006	1,517,386	0.181	1.058	1,895,971	88,763,017	2.1%
2007	1,230,788	0.181	1.485	2,158,538	137,355,374	1.6%
2008	1,146,853	0.181	1.390	1,882,662	144,101,950	1.3%
2009	2,627,506	0.181	1.260	3,909,887	131,029,269	3.0%
2010	7,142,985	0.181	1.216	10,258,012	124,305,610	8.3%
2011	17,509,218	0.181	1.091	22,560,120	114,263,857	19.7%
2012	14,555,470	0.181	1.112	19,115,291	113,320,604	16.9%
Total	54,470,019			71,049,189	1,024,598,499	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)
2003	5,790,403	1.000	5,790,403
2004	614,079	1.000	614,079
2005	2,335,331	1.000	2,335,331
2006	1,517,386	1.000	1,517,386
2007	1,230,788	1.000	1,230,788
2008	1,127,682	1.017	1,146,853
2009	2,553,456	1.029	2,627,506
2010	6,783,462	1.053	7,142,985
2011	16,137,528	1.085	17,509,218
2012	8,511,971	1.710	14,555,470
Total	46,602,086		54,470,019

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 12/31/12

Accident Year	Paid Loss Excluding Expense Non-Hurricane	Hurricane	Total
(1)	(2)	(3)	(4)
2003	5,790,403	5,911,547	11,701,950
2004	614,079	0	614,079
2005	2,335,331	68,839,142	71,174,473
2006	1,517,386	0	1,517,386
2007	1,230,788	5,119,850	6,350,638
2008	1,127,682	782,764,265	783,891,947
2009	2,553,456	0	2,553,456
2010	6,783,462	0	6,783,462
2011	16,137,528	0	16,137,528
2012	8,511,971	0	8,511,971
Total	46,602,086	862,634,804	909,236,890

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)
2005 / 4	5,552.88
2006 / 4	6,716.68
2007 / 4	10,029.78
2008 / 4	9,927.20
2009 / 4	9,331.67
2010 / 4	9,170.05
2011 / 4	8,536.90
2012 / 4	8,851.92

(3) Current Average Earned Date	7/1/2012
(4) Current Average Accident Date	7/1/2012
(5) Prospective Average Earned / Accident Date	1/1/2015
(6) Premium Trend Length	2.500
(7) Loss Trend Length	2.500
(8) Selected Premium Trend	-0.4%
(9) Selected Loss Trend	3.9%

Accident Year	Current Premium Trend	Current Loss Trend	Prospective Premium Trend	Prospective Loss Trend	Net Trend Factor
(10)	(11)	(12)	(13)	(14)	(15)
2003	1.581	1.262	0.990	1.100	0.887
2004	1.588	1.333	0.990	1.100	0.933
2005	1.594	1.314	0.990	1.100	0.916
2006	1.318	1.254	0.990	1.100	1.058
2007	0.883	1.179	0.990	1.100	1.485
2008	0.892	1.115	0.990	1.100	1.390
2009	0.949	1.075	0.990	1.100	1.260
2010	0.965	1.056	0.990	1.100	1.216
2011	1.037	1.018	0.990	1.100	1.091
2012	1.000	1.000	0.990	1.100	1.112

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 2012 / 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

Months of Development

Accident Year	12	24	36	48	60	72	84
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2003	3,808	4,798	4,890	5,390	5,790	5,790	5,790
2004	261	614	614	614	614	614	614
2005	1,414	1,943	2,100	2,100	2,100	2,335	2,335
2006	1,210	1,517	1,517	1,517	1,517	1517	1,517
2007	1,095	1,225	1,231	1,231	1231	1,231	
2008	952	1,040	1,040	1128	1,128		
2009	706	2,289	2553	2,553			
2010	4,489	6162	6,783				
2011	13,360	16,138					
2012	8,512						

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)
2003	1.260	1.019	1.102	1.074	1.000	1.000	
2004	2.357	1.000	1.000	1.000	1.000	1.000	
2005	1.375	1.081	1.000	1.000	1.112	1.000	
2006	1.254	1.000	1.000	1.000	1.000	1.000	
2007	1.118	1.005	1.000	1.000	1.000		
2008	1.093	1.000	1.085	1.000			
2009	3.241	1.115	1.000				
2010	1.373	1.101					
2011	1.208						
Average	1.648	1.046	1.027	1.012	1.022	1.000	
Avg x hi / lo	1.421	1.034	1.017	1.000	1.000	1.000	
Avg 3 Year	1.941	1.072	1.028	1.000	1.037	1.000	
Avg 5 Year	1.607	1.044	1.017	1.000	1.022	1.000	
Prior	1.504	1.015	1.019	1.012	1.012	1.000	1.000
Selected	1.576	1.031	1.023	1.012	1.017	1.000	1.000
Cumulative	1.710	1.085	1.053	1.029	1.017	1.000	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 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	9,922		8,567,448	1.825	15,631,560	14,993,682						
2004 / 3	10,417		8,856,719	1.825	16,159,343	14,714,121						
2004 / 4	10,227		7,522,250	1.825	13,724,565	14,277,718						
2005 / 1	10,081		6,935,919	1.659	11,504,352	14,179,446	58,164,966					
2005 / 2	10,251	10,203	9,692,929	1.659	16,077,303	14,140,814	57,312,098	5,617.25	6,715.31			
2005 / 3	10,776	10,289	10,442,876	1.659	17,321,212	14,528,073	57,126,050	5,552.22	6,809.92			
2005 / 4	10,615	10,382	8,668,450	1.659	14,378,037	14,803,010	57,651,342	5,552.88	6,905.86			
2006 / 1	10,939	10,538	9,902,054	1.580	15,642,067	15,205,110	58,677,006	5,568.13	7,003.15			
2006 / 2	11,554	10,808	17,237,202	1.580	27,229,247	16,905,893	61,442,086	5,684.81	7,101.81			
2006 / 3	12,798	11,224	24,440,342	1.536	37,537,468	20,800,184	67,714,197	6,033.12	7,201.86			
2006 / 4	13,104	11,788	25,268,242	1.463	36,958,993	26,262,523	79,173,711	6,716.68	7,303.32			
2007 / 1	13,418	12,409	19,686,371	1.410	27,767,195	30,731,634	94,700,234	7,631.81	7,406.21			
2007 / 2	14,309	13,063	33,066,784	1.410	46,639,974	34,442,341	112,236,682	8,592.04	7,510.55			
2007 / 3	15,543	13,750	34,446,242	1.410	48,585,669	38,949,965	130,386,463	9,482.39	7,616.36			
2007 / 4	15,186	14,354	23,752,321	1.410	33,502,128	39,841,064	143,965,004	10,029.78	7,723.66			
2008 / 1	14,705	14,775	17,918,266	1.367	24,501,295	39,261,189	152,494,559	10,321.21	7,832.47	9,437.60		
2008 / 2	14,506	14,960	29,792,537	1.338	39,868,805	38,246,891	156,299,110	10,447.54	7,942.81	9,412.39		
2008 / 3	15,154	14,936	31,242,113	1.338	41,808,649	35,468,696	152,817,841	10,231.25	8,054.71	9,387.25		
2008 / 4	14,627	14,818	19,084,269	1.338	25,538,845	34,123,180	147,099,956	9,927.20	8,168.19	9,362.18		
2009 / 1	14,096	14,672	22,603,019	1.207	27,271,985	33,012,872	140,851,640	9,600.11	8,283.26	9,337.17	9,545.68	
2009 / 2	13,835	14,512	31,063,838	1.158	35,960,275	32,945,851	135,550,599	9,340.67	8,399.95	9,312.24	9,473.83	
2009 / 3	14,052	14,290	34,959,552	1.158	40,470,051	32,978,548	133,060,451	9,311.28	8,518.29	9,287.36	9,402.52	
2009 / 4	13,862	14,057	22,643,071	1.158	26,212,185	32,236,902	131,174,174	9,331.67	8,638.30	9,262.56	9,331.76	
2010 / 1	13,510	13,888	21,743,758	1.158	25,171,118	32,146,221	130,307,523	9,382.74	8,760.00	9,237.82	9,261.52	9,325.50
2010 / 2	13,517	13,775	30,585,736	1.158	35,406,813	31,875,236	129,236,908	9,381.99	8,883.41	9,213.14	9,191.81	9,246.29
2010 / 3	13,796	13,703	30,105,285	1.158	34,850,631	30,790,061	127,048,421	9,271.41	9,008.56	9,188.54	9,122.63	9,167.75
2010 / 4	13,497	13,626	19,736,774	1.158	22,847,783	30,136,156	124,947,674	9,170.05	9,135.47	9,163.99	9,053.97	9,089.88
2011 / 1	13,063	13,524	18,744,820	1.103	20,666,164	29,110,820	121,912,273	9,014.43	9,264.17	9,139.52	8,985.83	9,012.67
2011 / 2	12,873	13,388	28,450,431	1.103	31,366,600	27,791,875	117,828,912	8,801.25	9,394.68	9,115.11	8,918.19	8,936.11
2011 / 3	13,052	13,214	30,646,904	1.103	33,788,212	27,651,118	114,689,969	8,679.26	9,527.04	9,090.76	8,851.07	8,860.20
2011 / 4	13,168	13,080	22,169,693	1.103	24,442,087	27,109,960	111,663,773	8,536.90	9,661.25	9,066.48	8,784.45	8,784.94
2012 / 1	13,081	13,041	23,775,360	1.050	24,964,128	28,067,005	110,619,958	8,482.31	9,797.36	9,042.26	8,718.34	8,710.32
2012 / 2	12,751	13,028	31,324,576	1.050	32,890,805	29,053,943	111,882,026	8,587.65	9,935.39	9,018.11	8,652.72	8,636.34
2012 / 3	13,266	13,040	32,448,061	1.050	34,070,464	29,006,183	113,237,092	8,683.99	10,075.36	8,994.02	8,587.59	8,562.98
2012 / 4	13,032	13,050	23,335,957	1.050	24,502,755	29,386,022	115,513,154	8,851.92	10,217.30	8,970.00	8,522.96	8,490.24
(14) Average Annual Change									5.8%	-1.1%	-3.0%	-3.4%
(15) Correlation Coefficient									37.4%	87.2%	79.2%	69.3%
(16) Selected Premium Trend												-0.4%

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 2011 / 4
(7) Calculated from (6) using uniform monthly earning assumption
(8) = Sum of (7) for prior 4 quarters
(9) = (8) / (3)
(10) - (13) = (9) fitted to an exponential distribution, excluding 2007 / 2 - 2007 / 4
(14) Fitted average annual change, excluding 2007 / 2 - 2007 / 4
(15) Evaluates the predictability of the fitted curve
(16) Selected based on judgment

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

Calendar Year Ending 12/31/xx	Commercial Statewide Boeckh	Commercial Coastal Boeckh	Residential Statewide Boeckh	Residential Coastal Boeckh	Modified CPI	Weighted Average
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2003			1.333	1.308	1.122	1.262
2004	1.281	1.411	1.317	1.221	1.097	1.333
2005	1.195	1.392	1.282	1.167	1.079	1.314
2006	1.117	1.320	1.200	1.091	1.054	1.254
2007	1.065	1.228	1.149	1.048	1.032	1.179
2008	1.041	1.146	1.079	1.032	1.022	1.115
2009	0.999	1.088	1.037	1.010	1.035	1.075
2010	0.989	1.063	1.025	0.998	1.035	1.056
2011	1.008	1.017	1.007	1.002	1.019	1.018
2012	1.000	1.000	1.000	1.000	1.000	1.000
Factors to Adjust For Prospective Loss Costs						
(8) Fitted Trend	3.0%	5.1%	2.4%	0.9%	0.4%	3.9%
(9) Cost Factor	1.076	1.133	1.061	1.023	1.010	1.100

Notes:
(2) = Exhibit 3, Sheet 3b trended forward to 12/31/2012
(3) = Exhibit 3, Sheet 3c trended forward to 12/31/2012
(4) = Residential Exhibit 3, Sheet 3b trended forward to 12/31/2012
(5) = Residential Exhibit 3, Sheet 3c trended forward to 12/31/2012
(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 7/1/2012 to 1/1/2015)

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

Calendar Year Ending	Texas Statewide Index	Fitted Trends All Years Linear	Exponential
(1)	(2)	(3)	(4)
3/31/2003			
6/30/2003			
9/30/2003			
12/31/2003			
3/31/2004			
6/30/2004			
9/30/2004			
12/31/2004	1664.24	1774.89	1776.31
3/31/2005	1702.61	1789.22	1789.44
6/30/2005	1737.67	1803.55	1802.65
9/30/2005	1763.94	1817.88	1815.97
12/31/2005	1784.92	1832.21	1829.39
3/31/2006	1809.91	1846.53	1842.90
6/30/2006	1838.89	1860.86	1856.51
9/30/2006	1872.87	1875.19	1870.23
12/31/2006	1908.61	1889.52	1884.04
3/31/2007	1939.13	1903.85	1897.96
6/30/2007	1964.32	1918.18	1911.98
9/30/2007	1986.91	1932.50	1926.11
12/31/2007	2002.86	1946.83	1940.33
3/31/2008	2014.68	1961.16	1954.67
6/30/2008	2026.83	1975.49	1969.11
9/30/2008	2036.42	1989.82	1983.65
12/31/2008	2048.86	2004.14	1998.31
3/31/2009	2067.48	2018.47	2013.07
6/30/2009	2089.43	2032.80	2027.94
9/30/2009	2113.66	2047.13	2042.92
12/31/2009	2135.53	2061.46	2058.01
3/31/2010	2157.39	2075.79	2073.21
6/30/2010	2169.76	2090.11	2088.53
9/30/2010	2169.47	2104.44	2103.96
12/31/2010	2155.75	2118.77	2119.50
3/31/2011	2133.40	2133.10	2135.16
6/30/2011	2117.93	2147.43	2150.93
9/30/2011	2112.10	2161.75	2166.82
12/31/2011	2114.69	2176.08	2182.83
3/31/2012	2119.35	2190.41	2198.95
6/30/2012	2120.80	2204.74	2215.19
9/30/2012	2124.00	2219.07	2231.56
12/31/2012	2132.36	2233.40	2248.04
Annual Trend		2.6%	3.0%
R-Squared		0.833	0.822

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)
3/31/2001			
6/30/2001			
9/30/2001			
12/31/2001			
3/31/2002			
6/30/2002			
9/30/2002			
12/31/2002	1567.59	1522.14	1541.85
3/31/2003	1573.22	1545.58	1561.26
6/30/2003	1578.68	1569.02	1580.92
9/30/2003	1581.86	1592.46	1600.82
12/31/2003	1588.21	1615.90	1620.98
3/31/2004	1597.26	1639.33	1641.39
6/30/2004	1611.74	1662.77	1662.05
9/30/2004	1638.59	1686.21	1682.98
12/31/2004	1675.10	1709.65	1704.17
3/31/2005	1713.04	1733.08	1725.62
6/30/2005	1748.40	1756.52	1747.35
9/30/2005	1775.70	1779.96	1769.35
12/31/2005	1800.08	1803.40	1791.62
3/31/2006	1828.22	1826.83	1814.18
6/30/2006	1858.44	1850.27	1837.02
9/30/2006	1894.75	1873.71	1860.15
12/31/2006	1930.37	1897.15	1883.57
3/31/2007	1959.70	1920.58	1907.28
6/30/2007	1988.13	1944.02	1931.29
9/30/2007	2013.31	1967.46	1955.61
12/31/2007	2031.76	1990.90	1980.23
3/31/2008	2045.54	2014.33	2005.16
6/30/2008	2059.06	2037.77	2030.41
9/30/2008	2067.44	2061.21	2055.97
12/31/2008	2081.19	2084.65	2081.85
3/31/2009	2102.26	2108.09	2108.06
6/30/2009	2124.60	2131.52	2134.60
9/30/2009	2151.09	2154.96	2161.48
12/31/2009	2174.31	2178.40	2188.69
3/31/2010	2197.54	2201.84	2216.25
6/30/2010	2214.43	2225.27	2244.15
9/30/2010	2222.87	2248.71	2272.40
12/31/2010	2211.36	2272.15	2301.01
3/31/2011	2185.47	2295.59	2329.98
6/30/2011	2161.59	2319.02	2359.32
9/30/2011	2140.49	2342.46	2389.02
12/31/2011	2133.28	2365.90	2419.10
3/31/2012	2129.27	2389.34	2449.56
6/30/2012	2119.68	2412.77	2480.40
9/30/2012	2115.32	2436.21	2511.62
12/31/2012	2119.43	2459.65	2543.25
Annual Trend		4.1%	5.1%
R-Squared		0.984	0.977

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

		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)
9/30/2002	165.32	165.18	165.28						
12/31/2002	165.32	165.67	165.75						
3/31/2003	164.94	166.16	166.22						
6/30/2003	164.84	166.65	166.69						
9/30/2003	164.70	167.14	167.16						
12/31/2003	164.88	167.63	167.64						
3/31/2004	165.75	168.13	168.11						
6/30/2004	166.66	168.62	168.59						
9/30/2004	167.76	169.11	169.06						
12/31/2004	168.68	169.60	169.54						
3/31/2005	170.03	170.09	170.02						
6/30/2005	170.63	170.58	170.50						
9/30/2005	170.66	171.08	170.98						
12/31/2005	171.45	171.57	171.47						
3/31/2006	171.94	172.06	171.95						
6/30/2006	172.99	172.55	172.44						
9/30/2006	174.54	173.04	172.93						
12/31/2006	175.48	173.53	173.42						
3/31/2007	176.25	174.03	173.91						
6/30/2007	177.33	174.52	174.40						
9/30/2007	178.34	175.01	174.89						
12/31/2007	179.24	175.50	175.39						
3/31/2008	180.31	175.99	175.88	178.92	178.94				
6/30/2008	180.58	176.48	176.38	179.11	179.12				
9/30/2008	181.04	176.97	176.88	179.29	179.29				
12/31/2008	181.06	177.47	177.38	179.47	179.47				
3/31/2009	180.55	177.96	177.88	179.65	179.65	177.90	177.93		
6/30/2009	180.07	178.45	178.38	179.83	179.83	178.27	178.28		
9/30/2009	179.30	178.94	178.89	180.01	180.01	178.63	178.64		
12/31/2009	178.80	179.43	179.39	180.19	180.19	178.99	178.99		
3/31/2010	178.46	179.92	179.90	180.37	180.37	179.35	179.35	177.24	177.27
6/30/2010	178.56	180.42	180.41	180.56	180.55	179.72	179.71	177.91	177.93
9/30/2010	178.59	180.91	180.92	180.74	180.73	180.08	180.07	178.58	178.59
12/31/2010	178.72	181.40	181.43	180.92	180.91	180.44	180.43	179.26	179.25
3/31/2011	178.97	181.89	181.95	181.10	181.09	180.80	180.79	179.93	179.92
6/30/2011	179.61	182.38	182.46	181.28	181.27	181.17	181.15	180.60	180.58
9/30/2011	180.52	182.87	182.98	181.46	181.45	181.53	181.51	181.27	181.26
12/31/2011	181.55	183.36	183.49	181.64	181.63	181.89	181.87	181.94	181.93
3/31/2012	182.78	183.86	184.01	181.83	181.81	182.25	182.24	182.62	182.60
6/30/2012	183.87	184.35	184.53	182.01	181.99	182.62	182.60	183.29	183.28
9/30/2012	184.57	184.84	185.06	182.19	182.17	182.98	182.97	183.96	183.96
12/31/2012	185.03	185.33	185.58	182.37	182.35	183.34	183.33	184.63	184.65
Annual Trend		1.1%	1.1%	0.4%	0.4%	0.8%	0.8%	1.5%	1.5%
R-Squared		0.885	0.882	0.283	0.280	0.581	0.580	0.919	0.920

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	4,276	1,471	0.344	
2005	15,750	20,235	1.285	H
2006	4,276	1,110	0.260	
2007	15,750	4,951	0.314	H
2008	2,672,456	354,587	0.133	H
2009	10,947	2,380	0.217	
2010	18,627	4,383	0.235	
2011	103,270	14,948	0.145	
2012	71,754	14,208	0.198	
All Years Total	3,337,069	464,111	0.139	
Hurricane Years Total	3,042,817	401,761	0.132	
Non-Hurricane Years				
Total	294,252	62,350	0.212	
10 Year	213,150	38,500	0.181	

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 12/31/12	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			4,276
2005			15,750
2006	4,276	1.000	4,276
2007	15,750	1.000	15,750
2008	2,680,497	0.997	2,672,456
2009	10,732	1.020	10,947
2010	18,173	1.025	18,627
2011	96,967	1.065	103,270
2012	62,722	1.144	71,754

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
Commercial 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)
2003	25,109	25,512	24,099	24,490	24,605	24,606	24,605
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	155,001
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	
2008	1,902,481	1,774,393	2,273,398	2,384,020	2,680,497		
2009	8,267	10,825	10,581	10,732			
2010	15,215	18,166	18,173				
2011	94,870	96,967					
2012	62,722						

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)
2003	1.016	0.945	1.016	1.005	1.000	1.000	
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		
2008	0.933	1.281	1.049	1.124			
2009	1.309	0.977	1.014				
2010	1.194	1.000					
2011	1.022						
Average	1.061	1.010	1.008	1.026	0.995	1.000	
Avg x hi / lo	1.044	0.976	1.011	1.008	0.997	1.000	
Avg 3 Year	1.175	1.086	1.027	1.049	0.992	1.000	
Avg 5 Year	1.084	1.044	1.008	1.031	0.995	1.000	
Prior	1.006	1.080	0.970	0.998	1.004	0.999	1.000
Selected	1.074	1.039	1.005	1.023	0.997	1.000	1.000
Cumulative	1.144	1.065	1.025	1.020	0.997	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 12/31/12	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	5,006	20,235
2006	860	1.000	860	250	1,110
2007	2,490	0.998	2,485	2,466	4,951
2008	120,296	0.997	119,935	234,652	354,587
2009	231	1.001	231	2,149	2,380
2010	322	0.972	313	4,070	4,383
2011	592	0.898	532	14,416	14,948
2012	516	0.823	425	13,783	14,208

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	Months of Development 12	24	36	48	60	72	84
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(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	
2008	167,316	139,787	106,761	111,632	120,296		
2009	7,335	359	226	231			
2010	391	312	322				
2011	515	592					
2012	516						

Accident Year	Development Factors 12 - 24	24 - 36	36 - 48	48 - 60	60 - 72	72 - 84	84 - Ult
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
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		
2008	0.835	0.764	1.046	1.078			
2009	0.049	0.630	1.022				
2010	0.798	1.032					
2011	1.150						
Average	0.96	0.94	0.97	1.00	1.00	1.00	
Avg x hi / lo	1.04	0.96	0.98	1.00	1.00	1.00	
Avg 3 Year	0.67	0.81	0.98	1.02	1.00	1.00	
Avg 5 Year	0.80	0.87	0.96	1.00	1.00	1.00	
Prior	1.12	1.03	0.97	1.01	1.01	1.00	1.00
Selected	0.92	0.92	0.97	1.00	1.00	1.00	1.00
Cumulative	0.82	0.90	0.97	1.00	1.00	1.00	1.00

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

Exhibit 5

Basis for Hurricane Loss Ratio	Indicated Loss Ratio	LAE Factor	Indicated Loss & LAE Ratio
(1)	(2)	(3)	(4)
Industry Experience	45.1%	0.132	51.1%
Hurricane Models			
AIR Model	46.5%	0.132	52.6%
RMS Model	50.7%	0.132	57.4%
Average of Models	48.6%	0.132	55.0%

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 - 2012 -- Hurricane Years Only

Accident Year	Earned Premium at Current TWIA Rate Level	Incurred Loss Ratio
(1)	(2)	(3)
1970	48,009,902	48.1%
1971	51,863,413	107.8%
1980	57,624,206	77.2%
1983	33,806,637	360.7%
1986	43,564,693	11.3%
1989	69,040,465	6.6%
1990	58,732,103	95.2%
1999	135,442,879	11.1%
2003	184,944,017	31.3%
2005	265,889,360	230.7%
2007	376,159,611	3.8%
2008	356,384,329	519.6%

(4)	Simple Average Loss Ratio for Hurricane Years	125.3%
(5)	Selected Non-Hurricane Loss Ratio	9.3%
(6)	Average Hurricane Loss Ratio for Hurricane Years	116.0%
(7)	Historical Hurricane Frequency	
	(a) 43.3-Year (10/1/1969 - 12/31/2012)	0.300 (1 Hurricane Every 3.3 years)
	(b) 162-Year (1/1/1851 - 12/31/2012)	0.389 (1 Hurricane Every 2.6 years)
	Selected Frequency	0.389 (1 Hurricane Every 2.6 years)
(8)	Indicated Hurricane Loss Ratio	45.1%

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 - 2012

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	48,009,902	23,092,142	48.1%	H
1971	13,340,143	20,347,170	51,863,413	55,893,676	107.8%	H
1972	18,906,678	24,314,307	61,975,348	8,704,522	14.0%	
1973	21,737,541	23,257,532	59,281,708	3,837,493	6.5%	
1974	22,348,193	22,844,661	58,229,331	2,193,087	3.8%	
1975	24,396,629	24,958,305	63,616,851	3,943,412	6.2%	
1976	26,795,934	24,109,943	61,454,440	2,218,115	3.6%	
1977	30,910,821	27,119,226	69,124,877	1,898,346	2.7%	
1978	32,709,599	26,415,338	67,330,719	2,535,872	3.8%	
1979	31,306,685	24,514,306	62,485,131	4,535,147	7.3%	
1980	28,751,765	22,607,257	57,624,206		77.2%	H
1981	24,129,384	21,398,588	54,545,001		9.8%	
1982	18,505,004	17,523,231	44,666,716		3.8%	
1983	12,680,397	13,262,706	33,806,637		360.7%	H
1984	12,736,031	14,992,627	38,216,206		9.8%	
1985	15,169,575	16,422,895	41,861,961		4.6%	
1986	21,130,682	17,090,896	43,564,693		11.3%	H
1987	31,114,529	26,771,157	68,239,680		1.8%	
1988	25,065,531	24,117,319	61,475,046		10.1%	
1989	24,167,085	27,085,314	69,040,465		6.6%	H
1990	19,677,404	23,041,233	58,732,103		95.2%	H
1991	21,794,680	25,534,881	65,088,412		74.4%	
1992	23,737,753	26,950,473	68,696,756		1.9%	
1993	21,990,182		56,052,975		6.6%	
1994	16,604,950		42,326,017		13.2%	
1995	32,374,229		82,521,910		28.7%	
1996	55,367,089		141,130,710		3.2%	
1997	53,196,024		135,596,665		4.8%	
1998	53,986,058		138,419,874		17.9%	
1999	52,435,243		135,442,879		11.1%	H
2000	41,739,697		105,809,512		10.5%	
2001	42,330,042		104,863,709		7.1%	
2002	69,156,402		167,890,817		15.0%	
2003	78,368,305		184,944,017		31.3%	H
2004	108,546,040		248,314,778		2.5%	
2005	120,256,662		265,889,360		230.7%	H
2006	147,065,607		312,820,346		2.3%	
2007	188,529,865		376,159,611		3.8%	H
2008	182,360,584		356,384,329		519.6%	H
2009	197,384,287		372,852,766		2.6%	
2010	203,323,503		378,503,377		5.8%	
2011	205,097,239		388,067,129		13.2%	
2012	231,430,216		355,400,882		14.6%	
Total / Average	2,613,528,477		5,658,321,265		42.2%	
Average of Non-Hurricane Years					10.1%	
Average of Non-Hurricane Years Excluding 1991					8.5%	
Selected					9.3%	

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 12/31/12
(3) Provided by TDI (1992 MR = 1992 manual rates)
(4) 1980 - 2008: Sum of Exhibit 6, Sheet 4 - Sheet 7, (5); 1970 - 1979: (3) * 2.549
(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 12/31/12
(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

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	19.1%	6.1%	5.5%	6.8%	9.8%
1982	2.3%	3.9%	4.6%	6.2%	3.8%
1983	1068.0%	4.6%	49.7%	178.9%	360.7%
1984	9.1%	4.6%	11.7%	17.1%	9.8%
1985	4.4%	3.0%	5.2%	9.6%	4.6%
1986	3.5%	1.2%	19.3%	15.1%	11.3%
1987	0.6%	2.0%	2.5%	3.6%	1.8%
1988	13.9%	4.1%	9.8%	5.8%	10.1%
1989	16.2%	2.1%	2.3%	6.6%	6.6%
1990	286.3%	3.0%	10.7%	8.2%	95.2%
1991	25.9%	25.6%	121.4%	5.6%	74.4%
1992	0.9%	1.2%	2.6%	4.6%	1.9%
1993	16.4%	2.1%	2.1%	6.9%	6.6%
1994	0.4%	4.5%	23.9%	9.6%	13.2%
1995	9.4%	12.6%	45.7%	25.0%	28.7%
1996	1.8%	3.5%	3.8%	8.1%	3.2%
1997	6.4%	2.5%	4.4%	11.0%	4.8%
1998	25.2%	16.7%	14.0%	11.2%	17.9%
1999	3.3%	15.4%	14.4%	11.2%	11.1%
2000	2.5%	2.4%	16.7%	70.6%	10.5%
2001	8.5%	3.8%	6.8%	32.4%	7.1%
2002	14.2%	37.2%	8.4%	10.4%	15.0%
2003	2.9%	9.8%	55.7%	31.2%	31.3%
2004	3.6%	0.8%	2.3%	3.0%	2.5%
2005	81.2%	1.9%	400.5%	43.7%	230.7%
2006	2.8%	1.2%	2.4%	4.4%	2.3%
2007	2.1%	1.2%	5.7%	6.7%	3.8%
2008	923.3%	38.0%	434.9%	320.2%	519.6%
2009	3.4%	4.8%	1.3%	7.4%	2.6%
2010	2.0%	4.2%	8.7%	2.1%	5.8%
2011	1.2%	29.7%	15.2%	8.4%	13.2%
2012	17.7%	18.5%	11.7%	3.5%	14.6%
Average	80.6%	8.5%	41.4%	28.0%	48.0%

TWIA 2012 Written Premium by Territory / Tier

		Territory 8	Territory 9	Territory 10	Tier 2	Total
(7)	Amount	103,486,342	55,367,354	169,785,643	3,645,085	332,284,424
(8)	% Share	31.14%	16.66%	51.10%	1.10%	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	2.549	5,714,032	1,089,270	19.1%
1982	1,604,454	1,510,804	2.549	3,851,039	88,884	2.3%
1983	913,865	968,224	2.549	2,468,003	26,357,425	1068.0%
1984	1,195,339	1,366,667	2.549	3,483,634	318,455	9.1%
1985	2,581,481	2,777,593	2.549	7,080,085	314,878	4.4%
1986	3,013,362	2,349,181	2.549	5,988,062	211,282	3.5%
1987	3,004,153	2,585,122	2.549	6,589,476	37,480	0.6%
1988	2,905,355	2,728,206	2.549	6,954,197	969,836	13.9%
1989	2,825,114	3,015,974	2.549	7,687,718	1,244,199	16.2%
1990	2,303,321	2,474,141	2.549	6,306,585	18,053,460	286.3%
1991	2,203,500	2,080,579	2.549	5,303,396	1,371,244	25.9%
1992	2,352,391	2,012,473	2.549	5,129,794	46,331	0.9%
1993	2,406,016		2.549	6,132,935	1,005,945	16.4%
1994	2,807,090		2.549	7,155,272	28,034	0.4%
1995	2,645,757		2.549	6,744,035	635,625	9.4%
1996	5,519,716		2.549	14,069,756	249,644	1.8%
1997	5,461,636		2.549	13,921,710	886,485	6.4%
1998	6,133,105		2.588	15,872,476	3,994,564	25.2%
1999	6,706,028		2.628	17,623,442	575,316	3.3%
2000	4,997,201		2.515	12,567,961	320,131	2.5%
2001	4,785,262		2.364	11,312,359	962,576	8.5%
2002	8,206,069		2.262	18,562,128	2,632,325	14.2%
2003	8,793,047		2.103	18,491,778	529,845	2.9%
2004	12,196,396		1.911	23,307,313	830,387	3.6%
2005	13,799,702		1.738	23,983,882	19,469,845	81.2%
2006	17,936,421		1.611	28,895,574	812,370	2.8%
2007	24,072,193		1.460	35,145,402	746,434	2.1%
2008	24,220,029		1.379	33,399,420	308,366,859	923.3%
2009	29,263,077		1.256	36,754,425	1,248,669	3.4%
2010	31,748,378		1.158	36,764,622	744,882	2.0%
2011	31,487,140		1.129	35,548,981	426,410	1.2%
2012	35,908,654		1.076	38,637,712	6,854,673	17.7%
Total	306,382,267			501,447,204	401,423,763	80.1%

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 12/31/12
(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 12/3199; 1996 - 2009 are year ending 12/31/xx as of 12/31/12
(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	2.549	3,278,085	200,989	6.1%
1982	1,347,308	1,333,262	2.549	3,398,485	132,668	3.9%
1983	745,985	820,826	2.549	2,092,285	96,051	4.6%
1984	558,639	652,809	2.549	1,664,010	76,481	4.6%
1985	1,235,059	1,383,103	2.549	3,525,530	106,148	3.0%
1986	2,228,911	1,849,840	2.549	4,715,242	56,387	1.2%
1987	2,381,538	2,086,940	2.549	5,319,610	105,275	2.0%
1988	1,796,653	1,719,227	2.549	4,382,310	181,414	4.1%
1989	1,632,453	1,826,430	2.549	4,655,570	98,116	2.1%
1990	1,429,526	1,769,972	2.549	4,511,659	135,678	3.0%
1991	1,390,109	1,555,310	2.549	3,964,485	1,013,636	25.6%
1992	1,571,433	1,629,721	2.549	4,154,159	49,512	1.2%
1993	1,587,772		2.549	4,047,231	86,000	2.1%
1994	2,203,514		2.549	5,616,757	254,088	4.5%
1995	2,669,951		2.549	6,805,705	854,753	12.6%
1996	5,639,923		2.549	14,376,164	502,177	3.5%
1997	3,183,758		2.549	8,115,399	199,390	2.5%
1998	3,613,310		2.580	9,322,340	1,561,275	16.7%
1999	6,808,428		2.613	17,790,422	2,735,082	15.4%
2000	5,167,158		2.521	13,026,405	317,804	2.4%
2001	4,763,324		2.399	11,427,214	431,244	3.8%
2002	8,479,915		2.316	19,639,483	7,300,265	37.2%
2003	9,934,549		2.188	21,736,793	2,122,879	9.8%
2004	13,829,716		2.033	28,115,813	212,644	0.8%
2005	16,064,833		1.893	30,410,729	566,758	1.9%
2006	20,941,100		1.790	37,484,569	434,362	1.2%
2007	27,788,306		1.668	46,350,894	571,169	1.2%
2008	28,211,972		1.603	45,223,791	17,168,322	38.0%
2009	29,997,197		1.503	45,085,787	2,141,973	4.8%
2010	28,491,290		1.424	40,571,597	1,694,905	4.2%
2011	26,088,986		1.401	36,550,669	10,854,458	29.7%
2012	27,646,382		1.357	37,516,140	6,940,691	18.5%
Total	290,796,217			524,875,332	59,202,594	11.3%

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 12/31/12
(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 80.9% 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 12/31/12
(7) = (6) / (5)

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

Accident Year	Earned Premium	Earned Premium at 1992 MR	TWIA Factor to Current Rate Level	Earned Premium at Current Rates	Incurred Loss	Incurred Loss Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1981	4,418,649	3,950,311	2.549	10,069,343	555,175	5.5%
1982	4,012,396	3,832,674	2.549	9,769,486	453,010	4.6%
1983	3,769,988	4,139,464	2.549	10,551,494	5,242,728	49.7%
1984	4,835,650	5,883,059	2.549	14,995,917	1,759,233	11.7%
1985	3,637,366	3,997,227	2.549	10,188,932	534,724	5.2%
1986	4,787,352	3,948,102	2.549	10,063,712	1,943,819	19.3%
1987	5,996,981	5,352,970	2.549	13,644,721	338,938	2.5%
1988	5,872,305	5,768,621	2.549	14,704,215	1,442,599	9.8%
1989	5,125,436	5,918,163	2.549	15,085,397	349,413	2.3%
1990	3,842,130	4,624,825	2.549	11,788,679	1,263,817	10.7%
1991	4,253,902	4,765,878	2.549	12,148,223	14,752,702	121.4%
1992	4,034,147	4,187,015	2.549	10,672,701	276,158	2.6%
1993	4,540,606		2.549	11,574,005	245,603	2.1%
1994	5,145,260		2.549	13,115,268	3,130,886	23.9%
1995	9,324,050		2.549	23,767,003	10,852,486	45.7%
1996	15,331,047		2.549	39,078,839	1,478,175	3.8%
1997	17,116,368		2.549	43,629,622	1,911,482	4.4%
1998	17,623,413		2.575	45,380,288	6,340,723	14.0%
1999	15,019,386		2.602	39,080,442	5,614,569	14.4%
2000	11,756,138		2.526	29,696,005	4,969,254	16.7%
2001	11,140,104		2.424	27,003,612	1,824,700	6.8%
2002	20,528,832		2.356	48,365,928	4,053,342	8.4%
2003	23,885,668		2.249	53,718,867	29,908,218	55.7%
2004	30,630,082		2.120	64,935,774	1,462,655	2.3%
2005	33,981,484		2.004	68,098,894	272,733,734	400.5%
2006	45,691,370		1.918	87,636,048	2,136,264	2.4%
2007	72,493,358		1.817	131,720,431	7,545,106	5.7%
2008	67,174,684		1.763	118,428,968	515,089,320	434.9%
2009	69,401,155		1.680	116,593,940	1,458,004	1.3%
2010	66,995,159		1.614	108,130,187	9,387,391	8.7%
2011	66,100,176		1.595	105,429,781	16,009,965	15.2%
2012	71,986,259		1.559	112,226,578	13,175,588	11.7%
Total	730,450,901			1,431,293,300	938,239,781	65.6%

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 12/31/12
(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 67.2% 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 12/31/12
(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	2.549	35,483,541	2,427,294	6.8%
1982	11,540,846	10,846,491	2.549	27,647,706	1,700,638	6.2%
1983	7,250,559	7,334,192	2.549	18,694,855	33,451,768	178.9%
1984	6,146,403	7,090,092	2.549	18,072,645	3,096,573	17.1%
1985	7,715,669	8,264,972	2.549	21,067,414	2,019,280	9.6%
1986	11,101,057	8,943,773	2.549	22,797,677	3,439,343	15.1%
1987	19,731,857	16,746,125	2.549	42,685,873	1,552,595	3.6%
1988	14,491,218	13,901,265	2.549	35,434,324	2,041,063	5.8%
1989	14,584,082	16,324,747	2.549	41,611,780	2,746,147	6.6%
1990	12,102,427	14,172,295	2.549	36,125,180	2,967,816	8.2%
1991	13,947,169	17,133,114	2.549	43,672,308	2,440,246	5.6%
1992	15,779,782	19,121,264	2.549	48,740,102	2,232,412	4.6%
1993	13,455,788		2.549	34,298,804	2,357,383	6.9%
1994	6,449,086		2.549	16,438,720	1,579,205	9.6%
1995	17,734,471		2.549	45,205,167	11,314,057	25.0%
1996	28,876,403		2.549	73,605,951	5,938,855	8.1%
1997	27,434,262		2.549	69,929,934	7,691,121	11.0%
1998	26,616,230		2.549	67,844,770	7,574,576	11.2%
1999	23,901,401		2.550	60,948,573	6,821,707	11.2%
2000	19,819,200		2.549	50,519,141	35,670,537	70.6%
2001	21,641,352		2.547	55,120,524	17,852,673	32.4%
2002	31,941,586		2.546	81,323,278	8,461,924	10.4%
2003	35,755,041		2.545	90,996,579	28,411,179	31.2%
2004	51,889,846		2.543	131,955,878	4,011,385	3.0%
2005	56,410,643		2.542	143,395,855	62,684,933	43.7%
2006	62,496,716		2.541	158,804,155	6,991,169	4.4%
2007	64,176,008		2.539	162,942,884	10,934,544	6.7%
2008	62,753,899		2.539	159,332,150	510,250,411	320.2%
2009	68,722,858		2.538	174,418,614	12,982,896	7.4%
2010	76,088,676		2.537	193,036,971	4,061,490	2.1%
2011	81,420,937		2.536	206,483,496	17,414,142	8.4%
2012	95,888,921		2.536	243,174,304	8,399,103	3.5%
Total	996,323,547			2,611,809,153	831,518,465	31.8%

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 12/31/12
(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 12/31/12
(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 12/31/12	Modeled Loss Cost	Expected Annual Hurricane Loss
(1)	(2)	(3)	(4)
Aransas	386,739	4.860	1,879,552
Brazoria	1,379,705	2.312	3,189,878
Calhoun	171,457	2.910	498,940
Cameron	1,841,760	2.722	5,013,271
Chambers	106,596	1.892	201,680
Galveston	3,757,683	6.871	25,819,040
Harris	138,007	4.117	568,175
Jefferson	1,375,706	2.215	3,047,189
Kenedy	682	0.876	597
Kleberg	118,160	0.822	97,128
Matagorda	170,163	2.653	451,442
Nueces	3,107,356	3.466	10,770,096
Refugio	29,846	1.436	42,859
San Patricio	413,996	2.510	1,039,130
Willacy	35,812	1.637	58,624
Total	13,033,668	4.042	52,677,601

(5) 2012 Earned Premium at Present Rates	113,320,604
(6) Indicated Hurricane Loss Ratio	46.5%

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

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

County	TWIA Insured Values (000s) as of 12/31/12	Average Annual Modeled Loss	Provision for Storm Surge	Modeled Loss Cost
(1)	(2)	(3)	(4)	(5)
Aransas	386,739	1,871,989	1.004	4.860
Brazoria	1,379,705	3,177,776	1.004	2.312
Calhoun	171,457	496,883	1.004	2.910
Cameron	1,841,760	4,992,542	1.004	2.722
Chambers	106,596	200,901	1.004	1.892
Galveston	3,757,683	25,715,847	1.004	6.871
Harris	138,007	565,922	1.004	4.117
Jefferson	1,375,706	3,035,181	1.004	2.215
Kenedy	682	595	1.004	0.876
Kleberg	118,160	96,750	1.004	0.822
Matagorda	170,163	449,628	1.004	2.653
Nueces	3,107,356	10,727,244	1.004	3.466
Refugio	29,846	42,692	1.004	1.436
San Patricio	413,996	1,034,995	1.004	2.510
Willacy	35,812	58,392	1.004	1.637
Total	13,033,668	52,467,337	1.004	4.042

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 12/31/12	Modeled Loss Cost	Expected Annual Hurricane Loss
(1)	(2)	(3)	(4)
Aransas	364,869	4.057	1,480,274
Brazoria	1,376,100	3.481	4,790,204
Calhoun	199,662	4.739	946,198
Cameron	1,841,760	4.164	7,669,089
Chambers	109,511	3.330	364,672
Galveston	3,761,287	6.182	23,252,276
Harris	134,659	4.609	620,643
Jefferson	1,376,138	3.124	4,299,055
Kenedy	682	1.706	1,163
Kleberg	118,160	1.906	225,213
Matagorda	170,163	3.852	655,468
Nueces	3,107,528	3.799	11,805,499
Refugio	29,846	2.692	80,345
San Patricio	407,489	2.931	1,194,350
Willacy	35,812	2.850	102,064
Total	13,033,666	4.411	57,486,513
(5) 2012 Earned Premium at Present Rates			113,320,604
(6) Indicated Hurricane Loss Ratio			50.7%

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 12/31/12	Average Annual Modeled Loss	Provision for Storm Surge	Modeled Loss Cost
(1)	(2)	(3)	(4)	(5)
Aransas	364,869	1,454,168	1.018	4.057
Brazoria	1,376,100	4,706,002	1.018	3.481
Calhoun	199,662	929,394	1.018	4.739
Cameron	1,841,760	7,533,523	1.018	4.164
Chambers	109,511	358,182	1.018	3.330
Galveston	3,761,287	22,840,385	1.018	6.182
Harris	134,659	609,644	1.018	4.609
Jefferson	1,376,138	4,223,228	1.018	3.124
Kenedy	682	1,143	1.018	1.706
Kleberg	118,160	221,222	1.018	1.906
Matagorda	170,163	643,929	1.018	3.852
Nueces	3,107,528	11,596,424	1.018	3.799
Refugio	29,846	78,924	1.018	2.692
San Patricio	407,489	1,173,191	1.018	2.931
Willacy	35,812	100,266	1.018	2.850
Total	13,033,666	56,469,625	1.018	4.411

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 - 2012

Exhibit 9

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

Frequency	Date Period	Hurricanes	Period	Annual Frequency
43.3-Year	10/1/1969 - 12/31/2012	13	43.3	0.300
162-Year	1/1/1851 - 12/31/2012	63	162	0.389

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

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

Year	TWIA Written Premium	Factor to Current Rate Level	Written Premium at Current Rate Level	Earned Premium at Current Rate Level
(1)	(2)	(3)	(4)	(5)
1991	7,329,258	1.960	14,365,346	14,365,346
1992	7,048,820	2.549	17,967,442	16,166,394
1993	9,185,541	2.549	23,413,944	20,690,693
1994	10,672,677	2.549	27,204,654	25,309,299
1995	12,865,905	2.549	32,795,192	29,999,923
1996	15,640,660	2.549	39,868,042	36,331,617
1997	16,536,186	2.549	42,150,738	41,009,390
1998	16,558,977	2.627	43,500,433	42,825,586
1999	17,394,142	2.627	45,694,411	44,597,422
2000	17,332,561	2.410	41,771,472	43,732,942
2001	17,544,251	2.318	40,667,574	41,219,523
2002	24,087,525	2.208	53,185,255	46,926,415
2003	29,220,514	2.007	58,645,572	55,915,414
2004	31,009,323	1.825	56,592,014	57,618,793
2005	35,740,174	1.658	59,257,208	57,924,611
2006	76,847,840	1.539	118,268,826	88,763,017
2007	110,951,718	1.410	156,441,922	137,355,374
2008	98,037,185	1.344	131,761,977	144,101,950
2009	111,269,480	1.171	130,296,561	131,029,269
2010	102,171,553	1.158	118,314,658	124,305,610
2011	100,011,848	1.102	110,213,056	114,263,857
2012	110,883,954	1.050	116,428,151	113,320,604
Total	767,444,290		1,252,163,241	1,200,188,588

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 Applicable Rates B.O.Y.			E.O.Y.	Cumulative Rate Level B.O.Y.			E.O.Y.	# Months B.O.Y.			E.O.Y.	Average Rate Level	Factor to Current Rate Level
(1)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1980	Prior			8/1/1980	1.000			1.175	7.0			5.0	1.073	3.815
1981	8/1/1980			9/1/1981	1.175			1.132	8.0			4.0	1.161	3.525
1982	9/1/1981			9/1/1982	1.132			1.428	8.0			4.0	1.231	3.325
1983	9/1/1982			10/10/1983	1.428			1.514	9.3			2.7	1.447	2.829
1984	10/10/1983			10/10/1983	1.514			1.514	12.0			0.0	1.514	2.703
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	1.794
1986	11/15/1985			11/15/1985	2.651			2.651	12.0			0.0	2.651	1.544
1987	11/15/1985			7/1/1987	2.651			2.407	6.0			6.0	2.529	1.618
1988	7/1/1987			11/1/1988	2.407			2.075	10.0			2.0	2.352	1.740
1989	11/1/1988			11/1/1988	2.075			2.075	12.0			0.0	2.075	1.973
1990	11/1/1988			3/1/1990	2.075			2.104	2.0			10.0	2.099	1.950
1991	3/1/1990			4/1/1991	2.104			2.083	3.0			9.0	2.088	1.960
1992	1/1/1992			1/1/1992	1.606			1.606	12.0			0.0	1.606	2.549
1993	1/1/1992			10/1/1993	1.606			1.606	9.0			3.0	1.606	2.549
1994	10/1/1993			10/1/1993	1.606			1.606	12.0			0.0	1.606	2.549
1995	10/1/1993			10/1/1993	1.606			1.606	12.0			0.0	1.606	2.549
1996	10/1/1993			10/1/1993	1.606			1.606	12.0			0.0	1.606	2.549
1997	10/1/1993			10/1/1993	1.606			1.606	12.0			0.0	1.606	2.549
1998	1/1/1998			1/1/1998	1.558			1.558	12.0			0.0	1.558	2.627
1999	1/1/1998			1/1/1998	1.558			1.558	12.0			0.0	1.558	2.627
2000	1/1/2000			1/1/2000	1.698			1.698	12.0			0.0	1.698	2.410
2001	1/1/2001			1/1/2001	1.766			1.766	12.0			0.0	1.766	2.318
2002	1/1/2002			1/1/2002	1.854			1.854	12.0			0.0	1.854	2.208
2003	1/1/2003			1/1/2003	2.039			2.039	12.0			0.0	2.039	2.007
2004	1/1/2004			1/1/2004	2.243			2.243	12.0			0.0	2.243	1.825
2005	1/1/2005			1/1/2005	2.468			2.468	12.0			0.0	2.468	1.658
2006	1/1/2006			9/1/2006	2.591			2.798	8.0			4.0	2.660	1.539
2007	1/1/2007			1/1/2007	2.902			2.902	12.0			0.0	2.902	1.410
2008	1/1/2007			2/1/2008	2.902			3.059	1.0			11.0	3.046	1.344
2009	2/1/2008			2/1/2009	3.059			3.536	1.0			11.0	3.496	1.171
2010	2/1/2009			2/1/2009	3.536			3.536	12.0			0.0	3.536	1.158
2011	1/1/2011			1/1/2011	3.713			3.713	12.0			0.0	3.713	1.102
2012	1/1/2012			1/1/2012	3.898			3.898	12.0			0.0	3.898	1.050
2013	1/1/2013			1/1/2013	4.093			4.093	12.0			0.0	4.093	1.000
Current				1/1/2013				4.093					4.093	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

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	2010	2011	2012	Selected
(1)	Direct Written Premium	$385,549,581	$403,748,164	$443,479,701	
(2)	Direct Earned Premium	383,424,000	385,000,000	429,594,000	
(3)	Commission				
	$ Amount	60,842,277	65,568,074	70,927,902	
	% of DWP	15.8%	16.2%	16.0%	16.0%
(4)	Other Acquisition				
	$ Amount	$0	$0	$0	
	% of DWP	0.0%	0.0%	0.0%	0.0%
(5)	General Expense				
	Unadjusted $ Amount	$17,146,560	$17,349,588	$22,296,934	
	Adjustments				
	Contribution to Statutory Fund	0	0	0	
	Adjusted $ Amount	17,146,560	17,349,588	22,296,934	
	% of DWP	4.4%	4.3%	5.0%	4.6%
(6)	Taxes, Licenses & Fees				
	$ Amount	$7,609,234	$7,851,260	$8,635,152	
	% of DWP	2.0%	1.9%	1.9%	2.0%
(7)	Reinsurance Expense				15.6%
(8)	Total Fixed Expenses				20.2%
(9)	Total Variable Expenses				18.0%
(10)	Fund Contribution				20.0%
(11)	Variable Permissible Loss & LAE Ratio				62.0%

Notes:
(1) - (6) From TWIA's Statutory Annual Statements and Insurance Expense Exhibits
(7) Exhibit 11, Sheet 2
(8) = (5) + (7)
(9) = (3) + (4) + (6)
(10) 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)	2013 - 2014 Reinsurance Premium	106,024,000
(2a)	Average Annual Loss by Reinsurance Layer (AIR)	
	100% of $1000M XS $1700M	27,174,975
	Total	27,174,975
(2b)	Average Annual Loss by Reinsurance Layer (RMS)	
	100% of $1000M XS $1700M	28,148,552
	Total	28,148,552
(2c)	Selected Total Average Annual Loss	27,661,764
(3)	Annual Exposure Growth	5.0%
(4)	Prospective Average Annual Loss	28,927,470
(5)	Net Cost of Reinsurance	77,096,530
(6)	TWIA 2012 Earned Premium at Present Rates	461,074,107
(7)	2013 - 2014 TWIA Prospective Earned Premium at Present Rates	493,854,627
(8)	Indicated Reinsurance Expense %	15.6%

Notes:
(1) From TWIA reinsurance contract effective 6/1/2013 through 5/31/2014
(2a) Provided by Guy Carpenter, based on AIR model using TWIA exposures as of 12/31/2012 and adjusted for ALAE
(2b) Provided by Guy Carpenter, based on RMS model using TWIA exposures as of 12/31/2012 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) ^ 1.417] (projected premium growth from 7/1/2012 to 12/1/2013)
(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 Commercial & Farm	Residential	Total	Schedule P Direct & Assumed Paid Loss	Difference
(1)	(2)	(3)	(4)	(5)	(6)
2003	11,701,949	12,907,506	24,609,455	24,605,000	4,455
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	6,350,638	10,170,834	16,521,472	15,725,000	796,472
2008	783,891,947	1,601,982,211	2,385,874,158	2,383,872,000	2,002,158
2009	2,553,456	8,199,249	10,752,705	10,122,000	630,705
2010	6,783,462	9,909,178	16,692,640	16,687,000	5,640
2011	16,137,528	71,887,087	88,024,615	87,917,000	107,615
2012	8,511,971	39,027,190	47,539,161	47,525,000	14,161
Total	884,587,390	1,734,183,415	2,618,770,805	2,615,313,000	3,457,805

Notes:

(2), (3) Provided by TWIA, as of 12/31/2012
(4) = (2) + (3)
(5) Based on TWIA 2012 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 Written Premium	Difference
	Commercial	Residential	Total		
(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	24,087,525	48,856,422	72,943,947	72,967,831	(23,884)
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	110,883,954	335,895,141	446,779,094	443,479,701	3,299,393
Total	766,502,641	1,595,523,014	2,362,025,655	3,220,179,993	-10,926,473

Notes:

(2), (3) Provided by TWIA, as of 12/31/2012
(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		TWIA Indications at Current Rates Commercial	Residential	Total	TWIA Indications at Proposed Rates Commercial	Residential	Total
(1)	2014 Written Premium	132,628,165	392,705,220	525,333,385	139,259,573	412,340,481	551,600,054
(2)	2014 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%	9.4%	8.8%	6.7%	9.2%	8.6%
(4)	General Expenses	4.6%	4.6%	4.6%	4.4%	4.4%	4.4%
(5)	Reinsurance	20.2%	20.2%	20.2%	19.2%	19.2%	19.2%
(6)	Commission	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%
(7)	Taxes, Licenses, & Fees	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
(8)	Total Non-Catastrophe Expenses	65,349,953	204,242,851	269,592,804	66,543,607	207,777,198	274,320,805
(9)	Net Premium Income			240,646,992			248,674,986

Estimated Costs for $1 Billion Class 1 Bonds		
(10)	Net Required Premium	195,000,000 - 242,000,000
(11)	Net Debt Service	130,000,000 - 162,000,000

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 financial analysts, assuming Class 1 bond proceeds are taxable; adjusted to 14 year term
(11) from financial analysts, assuming Class 1 bond proceeds are taxable; adjusted to 14 year term

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

		Rate Table A			Rate Table C		
Table	Coinsurance	Current	Proposed	Change	Current	Proposed	Change
	50%	--	--		--	--	
1	80%	1.471	1.544	4.963%	1.180	1.239	5.000%
Frame (F)	100%	1.458	1.530	4.938%	1.163	1.221	4.987%
	50%	--	--		--	--	
2	80%	1.535	1.611	4.951%	1.251	1.313	4.956%
Brick (M)	100%	1.185	1.244	4.979%	0.953	1.000	4.932%
	50%	--	--		--	--	
3	80%	1.251	1.313	4.956%	0.999	1.048	4.905%
	100%	1.059	1.111	4.910%	0.824	0.865	4.976%
	50%	1.820	1.911	5.000%	--	--	
	80%	1.127	1.183	4.969%	0.895	0.939	4.916%
(HC)	100%	1.077	1.130	4.921%	0.882	0.926	4.989%
	50%	0.727	0.763	4.952%	--	--	
4	80%	0.457	0.479	4.814%	0.359	0.376	4.735%
(WR)	100%	0.426	0.447	4.930%	0.352	0.369	4.830%
	50%	0.907	0.952	4.961%	--	--	
	80%	0.556	0.583	4.856%	0.447	0.469	4.922%
(SWR)	100%	0.538	0.564	4.833%	0.435	0.456	4.828%
	50%	--	--		--	--	
5	80%	1.051	1.103	4.948%	0.520	0.546	5.000%
Brick	100%	--	--		--	--	
	50%	--	--		--	--	
5A	80%	1.262	1.325	4.992%	0.634	0.665	4.890%
Frame	100%	--	--		--	--	
	50%	--	--		--	--	
5B	80%	1.051	1.103	4.948%	0.520	0.546	5.000%
Brick Veneer	100%	--	--		--	--	
	50%	--	--		--	--	
7	80%	3.577	3.755	4.976%	2.844	2.986	4.993%
	100%	3.075	3.228	4.976%	2.454	2.576	4.971%
	50%	--	--		--	--	
8	80%	4.263	4.476	4.996%	3.414	3.584	4.979%
	100%	3.577	3.755	4.976%	2.860	3.003	5.000%
	50%	--	--		--	--	
9	80%	5.104	5.359	4.996%	4.084	4.288	4.995%
	100%	4.183	4.392	4.996%	3.352	3.519	4.982%
	50%	--	--		--	--	
10	80%	6.125	6.431	4.996%	4.902	5.147	4.998%
	100%	5.104	5.359	4.996%	4.084	4.288	4.995%
	50%	--	--		--	--	
11	80%	7.950	8.347	4.994%	6.376	6.694	4.987%
	100%	6.729	7.065	4.993%	5.378	5.646	4.983%
	50%	--	--		--	--	
12	80%	11.673	12.256	4.994%	9.322	9.788	4.999%
	100%	9.816	10.306	4.992%	7.854	8.246	4.991%
	50%	--	--		--	--	
13	80%	15.909	16.704	4.997%	12.729	13.365	4.996%
	100%	13.398	14.067	4.993%	10.722	11.258	4.999%
	50%	--	--		--	--	
14	80%	31.569	33.147	4.999%	25.260	26.523	5.000%
	100%	26.506	27.831	4.999%	21.200	22.260	5.000%

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

		Rate Table B		
Table	Coinsurance	Current	Proposed	Change
	50%	--	--	
1	80%	0.874	0.917	4.920%
Frame (F)	100%	0.864	0.907	4.977%
	50%	--	--	
2	80%	0.919	0.964	4.897%
Brick (M)	100%	0.699	0.733	4.864%
	50%	--	--	
3	80%	0.740	0.777	5.000%
	100%	0.619	0.649	4.847%
	50%	1.077	1.130	4.921%
	80%	0.676	0.709	4.882%
(HC)	100%	0.643	0.675	4.977%
	50%	0.426	0.447	4.930%
4	80%	0.267	0.280	4.869%
(WR)	100%	0.259	0.271	4.633%
	50%	0.538	0.564	4.833%
	80%	0.339	0.355	4.720%
(SWR)	100%	0.326	0.342	4.908%

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

		Territory 1			Territories 8, 9, 10		
Table	Coinsurance	Current	Proposed	Change	Current	Proposed	Change
15	80%	3.046	3.198	4.990%	3.368	3.536	4.988%
21	80%	3.647	3.829	4.990%	4.029	4.230	4.989%
22	80%	3.408	3.578	4.988%	3.756	3.943	4.979%
23	80%	2.592	2.721	4.977%	2.866	3.009	4.990%
24	80%	2.593	2.722	4.975%	2.866	3.009	4.990%

Territorial Multipliers for Barns and Outbuildings

	Territory 1			Territories 8, 9, 10		
Construction	Current	Proposed	Change	Current	Proposed	Change
Frame	5.010	5.260	4.990%	5.530	5.806	4.991%
Brick Veneer	5.140	5.397	5.000%	5.680	5.964	5.000%
Brick	4.297	4.511	4.980%	4.747	4.984	4.993%

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