



TEXAS WINDSTORM
INSURANCE ASSOCIATION



Actuarial & Underwriting Committee

TWIA Actuarial Department – 2020 Rate Indications

July 21, 2020

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Actuarial Principles

Casualty Actuarial Society Statement of Principles

1. A rate is an estimate of the expected value of future costs
2. A rate provides for all costs associated with the transfer of risk
3. A rate provides for the costs associated with an individual risk transfer
4. A rate is reasonable and not excessive, inadequate, or unfairly discriminatory if it is an actuarially sound estimate of the expected value of all future costs associated with an individual risk transfer

Statutory Language

- **The association shall function in such a manner as to not be a direct competitor in the private market**
- **Rates must be reasonable, adequate, not unfairly discriminatory, and nonconfiscatory as to any class of insurer**

Overview of Rate Adequacy Analysis

- The Loss and LAE Ratio include a provision for:
 - Hurricane losses
 - Non-Hurricane Losses
- Fixed Expense Ratio includes:
 - General operating expenses
 - The net cost of reinsurance (total premiums less expected average annual recoveries)
 - Debt service outstanding pre-event Class 1 Public securities
 - Note: Previously considered part of provision for contribution to CRTF . Now that proceeds of Series 2014 Bonds have been used for Hurricane Harvey, debt service is considered a fixed expense
- Variable Expense includes:
 - Commissions, taxes, licenses and fees.
 - Provisions for CRTF and contingencies

Overview of Rate Adequacy Analysis

- **The Association employs the “Loss Ratio Method” to determine rate level indications.**
 - This approach compares the estimated percentage of each premium dollar needed to cover future losses, loss adjustment expense and other fixed expenses for a prospective accident year to the amount of each premium dollar that is available to pay for such costs (referred to as the permissible loss ratio).
 - This relationship is defined as:

Indicated Rate

$$\text{Change Factor} = \frac{\text{(Loss \& LAE Ratio + Fixed Expense Ratio)}}{\text{(1 - Variable Expense Ratio - Target UW Profit)}}$$

Rate Adequacy Analysis

Rate Element	Residential				Commercial			
	2018 Review	2019 Review	2020 Review	2020 vs. 2019	2018 Review	2019 Review	2020 Review	2020 vs. 2019
Non-Hurricane Loss Provision	15.4%	14.2%	14.6%	0.4%	9.1%	9.3%	9.0%	-0.3%
Hurricane Loss Provision								
Experience	41.5%	42.2%	42.6%	0.4%	55.1%	56.9%	54.3%	-2.6%
Modeled	50.8%	51.9%	55.1%	3.2%	57.5%	59.7%	62.1%	2.4%
Combined	46.2%	47.1%	48.9%	1.8%	56.3%	58.3%	58.2%	-0.1%
Fixed Expenses								
Operating	5.7%	6.2%	8.5%	2.3%	5.7%	6.2%	8.5%	2.3%
Reinsurance	16.0%	16.6%	19.5%	2.9%	16.0%	16.6%	19.5%	2.9%
Outstanding Class 1 Bond Debt Service	18.6%	25.1%	19.7%	-5.4%	18.6%	25.1%	19.7%	-5.4%
Total	40.3%	47.9%	47.7%	-0.1%	40.3%	47.9%	47.7%	-0.1%
(A) Total Loss Provision plus Fixed Expenses	101.9%	109.1%	111.2%	2.1%	105.7%	115.5%	114.9%	-0.5%
Variable Expenses								
Commissions	16.0%	16.0%	16.0%	0.0%	16.0%	16.0%	16.0%	0.0%
Taxes and Fees	2.0%	2.0%	1.9%	-0.1%	2.0%	2.0%	1.9%	-0.1%
CRTF Funding & Contingencies	5.0%	5.0%	5.0%	0.0%	5.0%	5.0%	5.0%	0.0%
(B) Total Variable Expenses	23.0%	23.0%	22.9%	-0.1%	23.0%	23.0%	22.9%	-0.1%
(C) Permissible Loss & LAE Ratio (1-B)	77.0%	77.0%	77.1%	0.1%	77.0%	77.0%	77.1%	0.1%
(D) Rate Indication (A/C -1)	32.3%	41.7%	44.0%	2.3%	37.3%	50.0%	49.0%	-1.0%

Impact of Alternative Rate Increases - Residential

Rate Element	2020	Residential Rate Increase - Illustrative						Indicated
	0.0%	2.5%	5.0%	7.5%	10.0%	12.5%	15.0% ...	44.0%
Non-Hurricane Loss Provision	14.6%	14.2%	13.9%	13.6%	13.3%	13.0%	12.7%	10.1%
Hurricane Loss Provision								
Experience	42.5%	41.5%	40.5%	39.5%	38.6%	37.8%	37.0%	29.5%
Modeled	55.1%	53.8%	52.5%	51.3%	50.1%	49.0%	47.9%	38.3%
Combined	48.8%	47.6%	46.5%	45.4%	44.4%	43.4%	42.4%	33.9%
Fixed Expenses								
Operating	8.5%	8.3%	8.1%	7.9%	7.7%	7.6%	7.4%	5.9%
Reinsurance	19.5%	19.1%	18.6%	18.2%	17.8%	17.4%	17.0%	13.6%
Outstanding Class 1 Bond Debt Service	19.7%	19.2%	18.8%	18.3%	17.9%	17.5%	17.1%	13.7%
Total	47.7%	46.6%	45.5%	44.4%	43.4%	42.4%	41.5%	33.2%
Total Loss Provision plus Fixed Expenses	111.1%	108.4%	105.9%	103.4%	101.0%	98.8%	96.6%	77.2%
Variable Expenses								
Commissions	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%
Taxes and Fees	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%
CRTF Funding & Contingencies	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Total Variable Expenses	22.9%	22.9%	22.9%	22.9%	22.9%	22.9%	22.9%	22.9%
Rate Indication	44.0%	41.0%	37.0%	34.0%	31.0%	28.0%	25.0%	0.0%

Impact of Alternative Rate Increases - Commercial

Rate Element	2020	Commercial Rate Increase - Illustrative						Indicated
	0.0%	2.5%	5.0%	7.5%	10.0%	12.5%	15.0%	49.0%
Non-Hurricane Loss Provision	9.0%	8.8%	8.6%	8.4%	8.2%	8.0%	7.8%	6.0%
Hurricane Loss Provision								
Experience	54.3%	53.0%	51.7%	50.5%	49.4%	48.3%	47.2%	36.4%
Modeled	62.1%	60.6%	59.1%	57.8%	56.5%	55.2%	54.0%	41.7%
Combined	58.2%	56.8%	55.4%	54.1%	52.9%	51.7%	50.6%	39.1%
Fixed Expenses								
Operating	8.5%	8.3%	8.1%	7.9%	7.7%	7.6%	7.4%	5.7%
Reinsurance	19.5%	19.1%	18.6%	18.2%	17.8%	17.4%	17.0%	13.1%
Outstanding Class 1 Bond Debt Service	19.7%	19.2%	18.8%	18.3%	17.9%	17.5%	17.1%	13.2%
Total	47.7%	46.6%	45.5%	44.4%	43.4%	42.4%	41.5%	32.0%
Total Loss Provision plus Fixed Expenses	114.9%	112.1%	109.5%	106.9%	104.5%	102.2%	100.0%	77.1%
Variable Expenses								
Commissions	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%
Taxes and Fees	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%
CRTF Funding & Contingencies	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Total Variable Expenses	22.9%	22.9%	22.9%	22.9%	22.9%	22.9%	22.9%	22.9%
Rate Indication	49.0%	45.0%	42.0%	39.0%	36.0%	33.0%	30.0%	0.0%

Questions
