

**Texas Windstorm Insurance Association
Residential Property - Wind & Hail
2020 Rate Level Review**

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

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Summary of Indicated Rate Change
By Method for Projecting Hurricane Loss & LAE

| Hurricane Projection Method | Indicated Loss & LAE Ratio | | | Fixed Expenses | Total | Permissible LLAE Ratio | Indicated Rate Change |
|---|----------------------------|---------------|-------|----------------|-------|------------------------|-----------------------|
| | Hurricane | Non-Hurricane | | | | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | |
| Using Experience and Models (50%/50%) | 42.6% | 14.9% | 39.5% | 97.1% | 77.1% | +26% | |
| Using Actual Industry Experience | 36.2% | 14.9% | 39.5% | 90.6% | 77.1% | +18% | |
| Using Hurricane Models (25% AIR, 75% RMS) | 49.0% | 14.9% | 39.5% | 103.5% | 77.1% | +34% | |
| AIR Model | 58.6% | 14.9% | 39.5% | 113.0% | 77.1% | +47% | |
| RMS Model | 45.9% | 14.9% | 39.5% | 100.3% | 77.1% | +30% | |

Notes:

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

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Projected Ultimate Non-Hurricane Loss & LAE Ratio

All Territory Weighted Average

| Territory | 2019 Written Premium | | Indicated Non-Hurricane Loss & LAE Ratio |
|--------------------------|----------------------|--------|--|
| | Amount | Share | |
| (1) | (2) | (3) | (4) |
| Tier 1 - Territory 8 | 108,030,247 | 34.4% | 11.9% |
| Tier 1 - Territory 9 | 58,233,887 | 18.5% | 16.4% |
| Tier 1 - Territory 10 | 143,774,114 | 45.7% | 16.5% |
| Tier 2 - Territory 1 and | 4,354,003 | 1.4% | 15.3% |
| Total / Average | 314,392,251 | 100.0% | 14.9% |

Notes:

(2) TWIA data

(3) = (2) / (2) Total

(4) Exhibit 2, Sheet 2a - Sheet 2d

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Projected Ultimate Non-Hurricane Loss & LAE Ratio based on TWIA experience
 Tier 1 -- Territory 8 (Galveston County)

| Accident Year Ending 9/30/xx | Ultimate Non-Hurricane Loss | LAE Factor | Net Trend Factor | Projected Non-Hurricane Loss & LAE | Earned Premium at Current TWIA Rate Level | Indicated Non-Hurricane Loss & LAE Ratio |
|------------------------------------|-----------------------------------|---------------|------------------------|--|---|--|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 2010 | 1,264,721 | 0.276 | 1.191 | 1,922,017 | 124,702,532 | 1.5% |
| 2011 | 1,277,401 | 0.276 | 1.185 | 1,931,507 | 126,684,509 | 1.5% |
| 2012 | 10,634,874 | 0.276 | 1.150 | 15,605,614 | 128,914,788 | 12.1% |
| 2013 | 54,058,418 | 0.276 | 1.130 | 77,945,752 | 131,926,783 | 59.1% |
| 2014 | 521,145 | 0.276 | 1.104 | 734,139 | 134,663,386 | 0.5% |
| 2015 | 17,502,327 | 0.276 | 1.098 | 24,521,600 | 136,975,647 | 17.9% |
| 2016 | 11,086,377 | 0.276 | 1.104 | 15,617,424 | 133,431,908 | 11.7% |
| 2017 | 2,742,807 | 0.276 | 1.090 | 3,814,806 | 126,682,785 | 3.0% |
| 2018 | 2,430,226 | 0.276 | 1.061 | 3,290,127 | 115,596,430 | 2.8% |
| 2019 | 4,293,828 | 0.276 | 1.045 | 5,725,476 | 109,182,096 | 5.2% |
| Total | 105,812,124 | | | 151,108,462 | 1,268,760,864 | 11.9% |

Notes:

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

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Projected Ultimate Non-Hurricane Loss & LAE Ratio based on TWIA experience
Tier 1 -- Territory 9 (Nueces County)

| Accident Year Ending 9/30/xx | Ultimate Non-Hurricane Loss | LAE Factor | Net Trend Factor | Projected Non-Hurricane Loss & LAE | Earned Premium at Current TWIA Rate Level | Indicated Non-Hurricane Loss & LAE Ratio |
|------------------------------------|-----------------------------------|---------------|------------------------|--|---|--|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 2010 | 3,445,556 | 0.276 | 1.191 | 5,236,267 | 69,035,414 | 7.6% |
| 2011 | 19,199,535 | 0.276 | 1.185 | 29,030,849 | 69,387,124 | 41.8% |
| 2012 | 20,626,638 | 0.276 | 1.150 | 30,267,529 | 70,391,274 | 43.0% |
| 2013 | 6,175,709 | 0.276 | 1.130 | 8,904,631 | 71,513,690 | 12.5% |
| 2014 | 1,619,343 | 0.276 | 1.104 | 2,281,175 | 74,528,934 | 3.1% |
| 2015 | 9,451,559 | 0.276 | 1.098 | 13,242,088 | 77,646,885 | 17.1% |
| 2016 | 9,626,035 | 0.276 | 1.104 | 13,560,234 | 76,688,491 | 17.7% |
| 2017 | 7,858,360 | 0.276 | 1.090 | 10,929,721 | 72,582,595 | 15.1% |
| 2018 | 1,180,751 | 0.276 | 1.061 | 1,598,543 | 65,531,943 | 2.4% |
| 2019 | 825,982 | 0.276 | 1.045 | 1,101,381 | 59,870,593 | 1.8% |
| Total | 80,009,468 | | | 116,152,418 | 707,176,943 | 16.4% |

Notes:

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

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Projected Ultimate Non-Hurricane Loss & LAE Ratio based on TWIA experience

Tier 1 -- Territory 10 (Other Tier 1)

| Accident Year Ending 9/30/xx | Ultimate Non-Hurricane Loss | LAE Factor | Net Trend Factor | Projected Non-Hurricane Loss & LAE | Earned Premium at Current TWIA Rate Level | Indicated Non-Hurricane Loss & LAE Ratio |
|------------------------------------|-----------------------------------|---------------|------------------------|--|---|--|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 2010 | 6,663,982 | 0.276 | 1.191 | 10,127,360 | 185,336,084 | 5.5% |
| 2011 | 56,124,736 | 0.276 | 1.185 | 84,863,968 | 193,033,699 | 44.0% |
| 2012 | 18,946,421 | 0.276 | 1.150 | 27,801,978 | 209,220,809 | 13.3% |
| 2013 | 4,828,213 | 0.276 | 1.130 | 6,961,704 | 215,695,773 | 3.2% |
| 2014 | 2,847,431 | 0.276 | 1.104 | 4,011,187 | 222,006,785 | 1.8% |
| 2015 | 86,695,348 | 0.276 | 1.098 | 121,464,344 | 226,666,349 | 53.6% |
| 2016 | 12,296,413 | 0.276 | 1.104 | 17,322,006 | 216,365,340 | 8.0% |
| 2017 | 22,417,655 | 0.276 | 1.090 | 31,179,371 | 197,982,407 | 15.7% |
| 2018 | 7,114,851 | 0.276 | 1.061 | 9,632,341 | 171,091,403 | 5.6% |
| 2019 | 10,943,641 | 0.276 | 1.045 | 14,592,470 | 151,980,115 | 9.6% |
| Total | 228,878,691 | | | 327,956,729 | 1,989,378,764 | 16.5% |

Notes:

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

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Projected Ultimate Non-Hurricane Loss & LAE Ratio based on TWIA experience
Tier 2 -- (Territories 1 and 11)

| Accident Year Ending 9/30/xx | Ultimate Non-Hurricane Loss | LAE Factor | Net Trend Factor | Projected Non-Hurricane Loss & LAE | Earned Premium at Current TWIA Rate Level | Indicated Non-Hurricane Loss & LAE Ratio |
|------------------------------------|-----------------------------------|---------------|------------------------|--|---|--|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 2010 | 182,872 | 0.276 | 1.191 | 277,914 | 3,606,426 | 7.7% |
| 2011 | 54,382 | 0.276 | 1.185 | 82,229 | 3,878,435 | 2.1% |
| 2012 | 259,290 | 0.276 | 1.150 | 380,482 | 4,306,581 | 8.8% |
| 2013 | 502,759 | 0.276 | 1.130 | 724,918 | 4,573,701 | 15.8% |
| 2014 | 30,779 | 0.276 | 1.104 | 43,359 | 4,650,368 | 0.9% |
| 2015 | 324,129 | 0.276 | 1.098 | 454,120 | 4,748,938 | 9.6% |
| 2016 | 451,360 | 0.276 | 1.104 | 635,833 | 4,776,381 | 13.3% |
| 2017 | 495,555 | 0.276 | 1.090 | 689,238 | 4,657,598 | 14.8% |
| 2018 | 301,949 | 0.276 | 1.061 | 408,789 | 4,410,916 | 9.3% |
| 2019 | 2,268,507 | 0.276 | 1.045 | 3,024,873 | 4,296,061 | 70.4% |
| Total | 4,871,582 | | | 6,721,755 | 43,905,405 | 15.3% |

Notes:

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

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Projected Ultimate Non-Hurricane Loss
 Tier 1 -- Territory 8 (Galveston County)

| Accident Year | TWIA Non-Hurricane Paid Loss | Development Factor | Ultimate Non-Hurricane Loss |
|---------------|------------------------------|--------------------|-----------------------------|
| (1) | (2) | (3) | (4) |
| 2010 | 1,264,721 | 1.000 | 1,264,721 |
| 2011 | 1,277,401 | 1.000 | 1,277,401 |
| 2012 | 10,634,874 | 1.000 | 10,634,874 |
| 2013 | 54,058,418 | 1.000 | 54,058,418 |
| 2014 | 520,624 | 1.001 | 521,145 |
| 2015 | 17,432,597 | 1.004 | 17,502,327 |
| 2016 | 10,965,754 | 1.011 | 11,086,377 |
| 2017 | 2,662,919 | 1.030 | 2,742,807 |
| 2018 | 2,271,239 | 1.070 | 2,430,226 |
| 2019 | 3,407,800 | 1.260 | 4,293,828 |
| Total | 104,496,347 | | 105,812,124 |

Notes:

- (2) Exhibit 2, Sheet 4a, as of 12/31/19
- (3) Exhibit 3, Sheet 1
- (4) = (2) * (3)

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Projected Ultimate Non-Hurricane Loss
Tier 1 -- Territory 9 (Nueces County)

| Accident Year | TWIA Non-Hurricane Paid Loss | Development Factor | Ultimate Non-Hurricane Loss |
|---------------|------------------------------|--------------------|-----------------------------|
| (1) | (2) | (3) | (4) |
| 2010 | 3,445,556 | 1.000 | 3,445,556 |
| 2011 | 19,199,535 | 1.000 | 19,199,535 |
| 2012 | 20,626,638 | 1.000 | 20,626,638 |
| 2013 | 6,175,709 | 1.000 | 6,175,709 |
| 2014 | 1,617,725 | 1.001 | 1,619,343 |
| 2015 | 9,413,903 | 1.004 | 9,451,559 |
| 2016 | 9,521,301 | 1.011 | 9,626,035 |
| 2017 | 7,629,476 | 1.030 | 7,858,360 |
| 2018 | 1,103,506 | 1.070 | 1,180,751 |
| 2019 | 655,541 | 1.260 | 825,982 |
| Total | 79,388,890 | | 80,009,468 |

Notes:

- (2) Exhibit 2, Sheet 4b, as of 12/31/19
- (3) Exhibit 3, Sheet 1
- (4) = (2) * (3)

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Projected Ultimate Non-Hurricane Loss
Tier 1 -- Territory 10 (Other Tier 1)

| Accident Year | TWIA Non-Hurricane Paid Loss | Development Factor | Ultimate Non-Hurricane Loss |
|---------------|------------------------------|--------------------|-----------------------------|
| (1) | (2) | (3) | (4) |
| 2010 | 6,663,982 | 1.000 | 6,663,982 |
| 2011 | 56,124,736 | 1.000 | 56,124,736 |
| 2012 | 18,946,421 | 1.000 | 18,946,421 |
| 2013 | 4,828,213 | 1.000 | 4,828,213 |
| 2014 | 2,844,586 | 1.001 | 2,847,431 |
| 2015 | 86,349,948 | 1.004 | 86,695,348 |
| 2016 | 12,162,624 | 1.011 | 12,296,413 |
| 2017 | 21,764,714 | 1.030 | 22,417,655 |
| 2018 | 6,649,393 | 1.070 | 7,114,851 |
| 2019 | 8,685,429 | 1.260 | 10,943,641 |
| Total | 225,020,046 | | 228,878,691 |

Notes:

- (2) Exhibit 2, Sheet 4c, as of 12/31/19
- (3) Exhibit 3, Sheet 1
- (4) = (2) * (3)

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Projected Ultimate Non-Hurricane Loss
 Tier 2 -- (Territories 1 and 11)

| Accident Year | TWIA Non-Hurricane Paid Loss | Development Factor | Ultimate Non-Hurricane Loss |
|---------------|------------------------------|--------------------|-----------------------------|
| (1) | (2) | (3) | (4) |
| 2010 | 182,872 | 1.000 | 182,872 |
| 2011 | 54,382 | 1.000 | 54,382 |
| 2012 | 259,290 | 1.000 | 259,290 |
| 2013 | 502,759 | 1.000 | 502,759 |
| 2014 | 30,748 | 1.001 | 30,779 |
| 2015 | 322,838 | 1.004 | 324,129 |
| 2016 | 446,449 | 1.011 | 451,360 |
| 2017 | 481,121 | 1.030 | 495,555 |
| 2018 | 282,195 | 1.070 | 301,949 |
| 2019 | 1,800,402 | 1.260 | 2,268,507 |
| Total | 4,363,056 | | 4,871,582 |

Notes:

- (2) Exhibit 2, Sheet 4d, as of 12/31/19
- (3) Exhibit 3, Sheet 1
- (4) = (2) * (3)

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Summary of TWIA Historical Paid Loss as of 12/31/19
 Tier 1 -- Territory 8 (Galveston County)

| Accident Year | Paid Loss Excluding Expense | | | Total |
|------------------|-----------------------------|-------------------|-----|--------------------|
| | (1) | (2) | (3) | |
| | Non-Hurricane | Hurricane | | |
| 2010 | 1,264,721 | 0 | | 1,264,721 |
| 2011 | 1,277,401 | 0 | | 1,277,401 |
| 2012 | 10,634,874 | 0 | | 10,634,874 |
| 2013 | 54,058,418 | 0 | | 54,058,418 |
| 2014 | 520,624 | 0 | | 520,624 |
| 2015 | 17,432,597 | 0 | | 17,432,597 |
| 2016 | 10,965,754 | 0 | | 10,965,754 |
| 2017 | 2,662,919 | 33,808,487 | | 36,471,406 |
| 2018 | 2,271,239 | 0 | | 2,271,239 |
| 2019 | 3,407,800 | 0 | | 3,407,800 |
| Total | 104,496,347 | 33,808,487 | | 138,304,834 |

Notes:

(2), (3) Source: TICO. Accident years ending 9/30/xx
 (4) = (2) + (3)

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Summary of TWIA Historical Paid Loss as of 12/31/19
Tier 1 -- Territory 9 (Nueces County)

| Accident Year | Paid Loss Excluding Expense | | |
|------------------|-----------------------------|--------------------|--------------------|
| | Non-Hurricane (1) | Hurricane (2) | Total (3) |
| 2010 | 3,445,556 | 187,854 | 3,633,410 |
| 2011 | 19,199,535 | 0 | 19,199,535 |
| 2012 | 20,626,638 | 0 | 20,626,638 |
| 2013 | 6,175,709 | 0 | 6,175,709 |
| 2014 | 1,617,725 | 0 | 1,617,725 |
| 2015 | 9,413,903 | 0 | 9,413,903 |
| 2016 | 9,521,301 | 0 | 9,521,301 |
| 2017 | 7,629,476 | 240,658,023 | 248,287,499 |
| 2018 | 1,103,506 | 0 | 1,103,506 |
| 2019 | 655,541 | 0 | 655,541 |
| Total | 79,388,890 | 240,845,877 | 320,234,767 |

Notes:

(2), (3) Source: TICO. Accident years ending 9/30/xx

(4) = (2) + (3)

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Summary of TWIA Historical Paid Loss as of 12/31/19
Tier 1 -- Territory 10 (Other Tier 1)

| Accident Year | Paid Loss Excluding Expense | | |
|------------------|-----------------------------|--------------------|--------------------|
| | Non-Hurricane (1) | Hurricane (2) | Total (3) |
| 2010 | 6,663,982 | 1,063,585 | 7,727,567 |
| 2011 | 56,124,736 | 0 | 56,124,736 |
| 2012 | 18,946,421 | 0 | 18,946,421 |
| 2013 | 4,828,213 | 0 | 4,828,213 |
| 2014 | 2,844,586 | 0 | 2,844,586 |
| 2015 | 86,349,948 | 0 | 86,349,948 |
| 2016 | 12,162,624 | 0 | 12,162,624 |
| 2017 | 21,764,714 | 607,746,813 | 629,511,527 |
| 2018 | 6,649,393 | 0 | 6,649,393 |
| 2019 | 8,685,429 | 0 | 8,685,429 |
| Total | 225,020,046 | 608,810,398 | 833,830,444 |

Notes:

(2), (3) Source: TICO. Accident years ending 9/30/xx

(4) = (2) + (3)

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Summary of TWIA Historical Paid Loss as of 12/31/19
Tier 2 -- (Territories 1 and 11)

| Accident Year | Paid Loss Excluding Expense | | | Total |
|------------------|-----------------------------|------------------|------------------|------------------|
| | Non-Hurricane (1) | Hurricane (2) | Hurricane (3) | |
| 2010 | | 182,872 | 0 | 182,872 |
| 2011 | | 54,382 | 0 | 54,382 |
| 2012 | | 259,290 | 0 | 259,290 |
| 2013 | | 502,759 | 0 | 502,759 |
| 2014 | | 30,748 | 0 | 30,748 |
| 2015 | | 322,838 | 0 | 322,838 |
| 2016 | | 446,449 | 0 | 446,449 |
| 2017 | | 481,121 | 3,233,870 | 3,714,991 |
| 2018 | | 282,195 | 0 | 282,195 |
| 2019 | | 1,800,402 | 0 | 1,800,402 |
| Total | | 4,363,056 | 3,233,870 | 7,596,926 |

Notes:

(2), (3) Source: TICO. Accident years ending 9/30/xx

(4) = (2) + (3)

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Calculation of Net Trend Factors

| Year / Quarter | Average Written premium Per house year At present rates | | |
|----------------|---|--|----------|
| (1) | (2) | | |
| | | (3) Current Average Earned Date | 7/1/2019 |
| 2011 / 4 | 1,640.91 | (4) Current Average Accident Date | 4/1/2019 |
| 2012 / 4 | 1,626.20 | (5) Prospective Average Earned / Accident Date | 1/1/2022 |
| 2013 / 4 | 1,640.94 | (6) Premium Trend Length | 2.500 |
| 2014 / 4 | 1,655.17 | (7) Loss Trend Length | 2.750 |
| 2015 / 4 | 1,680.32 | (8) Selected Premium Trend | 0.1% |
| 2016 / 4 | 1,686.41 | (9) Selected Loss Trend | 1.7% |
| 2017 / 4 | 1,683.69 | | |
| 2018 / 4 | 1,689.86 | | |
| 2019 / 4 | 1,711.99 | | |

| Accident Year | Current Premium Trend | Current Loss Trend | Prospective Premium Trend | Prospective Loss Trend | Net Trend Factor |
|---------------|-----------------------|--------------------|---------------------------|------------------------|------------------|
| (10) | (11) | (12) | (13) | (14) | (15) |
| 2010 | 1.043 | 1.189 | 1.003 | 1.047 | 1.191 |
| 2011 | 1.043 | 1.183 | 1.003 | 1.047 | 1.185 |
| 2012 | 1.053 | 1.159 | 1.003 | 1.047 | 1.150 |
| 2013 | 1.043 | 1.129 | 1.003 | 1.047 | 1.130 |
| 2014 | 1.034 | 1.093 | 1.003 | 1.047 | 1.104 |
| 2015 | 1.019 | 1.071 | 1.003 | 1.047 | 1.098 |
| 2016 | 1.015 | 1.073 | 1.003 | 1.047 | 1.104 |
| 2017 | 1.017 | 1.061 | 1.003 | 1.047 | 1.090 |
| 2018 | 1.013 | 1.029 | 1.003 | 1.047 | 1.061 |
| 2019 | 1.000 | 1.000 | 1.003 | 1.047 | 1.045 |

Notes:

- (2) Exhibit 3, Sheet 2 (6)
- (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 2019 / 4
- (12) Exhibit 3, Sheet 3a
- (13) = [1 + (8)] ^ (6)
- (14) = [1 + (9)] ^ (7)
- (15) = [(12) * (14)] / [(11) * (13)]

Rate Level Review

Paid Loss Development Factors

Statewide Industry Extended Coverage Dwelling Paid Loss (excluding Hurricane Losses)

| Accident Year | Months of Development (\$000) | | | | | | | | | |
|---------------|-------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|-------------|
| | 15 (1) | 27 (2) | 39 (3) | 51 (4) | 63 (5) | 75 (6) | 87 (7) | 99 (8) | 111 (9) | 111 (10) |
| 2010 | | 63,706 | 70,824 | 72,510 | 73,282 | 73,407 | 73,508 | 73,530 | 73,536 | 73,536 |
| 2011 | | 137,269 | 154,006 | 156,583 | 157,456 | 157,929 | 157,995 | 158,032 | 158,046 | 158,071 |
| 2012 | | 162,844 | 196,788 | 232,373 | 242,523 | 245,227 | 246,785 | 247,419 | 247,577 | |
| 2013 | | 124,050 | 143,359 | 151,995 | 154,466 | 156,218 | 156,541 | 156,580 | | |
| 2014 | | 151,510 | 178,253 | 187,490 | 191,068 | 191,825 | 192,297 | | | |
| 2015 | | 173,851 | 200,069 | 206,343 | 208,327 | 209,063 | | | | |
| 2016 | | 486,124 | 553,332 | 561,570 | 563,807 | | | | | |
| 2017 | | 634,033 | 775,472 | 803,355 | | | | | | |
| 2018 | | 181,011 | 216,648 | | | | | | | |
| 2019 | | 272,311 | | | | | | | | |

| Accident Year | Development Factors | | | | | | | | | |
|---------------|---------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|------------------|-------------------|
| | 15 - 27 (1) | 27 - 39 (2) | 39 - 51 (3) | 51 - 63 (4) | 63 - 75 (5) | 75 - 87 (6) | 87 - 99 (7) | 99 - 111 (8) | 111 - Ult (9) | 111 - Ult (10) |
| 2010 | | 1.112 | 1.024 | 1.011 | 1.002 | 1.001 | 1.000 | 1.000 | 1.000 | |
| 2011 | | 1.122 | 1.017 | 1.006 | 1.003 | 1.000 | 1.000 | 1.000 | 1.000 | |
| 2012 | | 1.208 | 1.181 | 1.044 | 1.011 | 1.006 | 1.003 | 1.001 | | |
| 2013 | | 1.156 | 1.060 | 1.016 | 1.011 | 1.002 | 1.000 | | | |
| 2014 | | 1.177 | 1.052 | 1.019 | 1.004 | 1.002 | | | | |
| 2015 | | 1.151 | 1.031 | 1.010 | 1.004 | | | | | |
| 2016 | | 1.138 | 1.015 | 1.004 | | | | | | |
| 2017 | | 1.223 | 1.036 | | | | | | | |
| 2018 | | 1.197 | | | | | | | | |

| | | | | | | | | | | |
|---------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Average | | 1.165 | 1.052 | 1.016 | 1.006 | 1.003 | 1.001 | 1.000 | 1.000 | |
| Avg 5 Year | | 1.177 | 1.039 | 1.019 | 1.007 | 1.003 | 1.001 | 1.000 | 1.000 | |
| Prior | | 1.163 | 1.052 | 1.021 | 1.012 | 1.004 | 1.001 | 1.000 | 1.000 | 1.000 |
| Selected | | 1.177 | 1.039 | 1.019 | 1.007 | 1.003 | 1.001 | 1.000 | 1.000 | 1.000 |
| Selected Cumulative | | 1.260 | 1.070 | 1.030 | 1.011 | 1.004 | 1.001 | 1.000 | 1.000 | 1.000 |

Notes:

Data provided by TICO. Accident years ending 9/30/xx

Rate Level Review

Premium Trend Analysis

TWIA Residential Earned Premium at Present Rates

| Year / Quarter | Exposure Written | Written Premium | On-Level Factors | Written Premium at Present Rates | Average | Average | Exponential Fitted Trends | | | |
|----------------|------------------|-----------------|------------------|----------------------------------|--|--|---------------------------|--------|--------|--------|
| | | | | | Written Premium at Present Rates Quarterly | Written Premium at Present Rates Four Quarter Ending | All-Year | 5-Year | 4-Year | 3-Year |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
| 2010 / 2 | 72,174 | 82,603,320 | 1.407 | 116,231,166 | 1,610 | | | | | |
| 2010 / 3 | 80,037 | 91,866,506 | 1.407 | 129,265,399 | 1,615 | | | | | |
| 2010 / 4 | 50,797 | 58,863,267 | 1.407 | 82,826,528 | 1,631 | | | | | |
| 2011 / 1 | 49,776 | 59,951,748 | 1.340 | 80,341,076 | 1,614 | 1,617 | 1607.7 | | | |
| 2011 / 2 | 75,601 | 90,742,856 | 1.340 | 121,604,106 | 1,608 | 1,616 | 1609.4 | | | |
| 2011 / 3 | 82,435 | 99,110,457 | 1.340 | 132,817,491 | 1,611 | 1,615 | 1611.1 | | | |
| 2011 / 4 | 54,497 | 66,729,933 | 1.340 | 89,424,492 | 1,641 | 1,617 | 1612.8 | | | |
| 2012 / 1 | 54,769 | 68,658,174 | 1.276 | 87,627,162 | 1,600 | 1,614 | 1614.5 | | | |
| 2012 / 2 | 77,155 | 96,214,511 | 1.276 | 122,796,806 | 1,592 | 1,609 | 1616.2 | | | |
| 2012 / 3 | 89,431 | 112,131,482 | 1.276 | 143,111,343 | 1,600 | 1,606 | 1617.9 | | | |
| 2012 / 4 | 54,952 | 70,018,382 | 1.276 | 89,363,170 | 1,626 | 1,603 | 1619.6 | | | |
| 2013 / 1 | 54,742 | 71,740,155 | 1.216 | 87,200,607 | 1,593 | 1,602 | 1621.2 | | | |
| 2013 / 2 | 82,182 | 108,632,729 | 1.216 | 132,043,761 | 1,607 | 1,606 | 1622.9 | | | |
| 2013 / 3 | 83,114 | 111,540,208 | 1.216 | 135,577,820 | 1,631 | 1,615 | 1624.6 | | | |
| 2013 / 4 | 60,544 | 81,734,680 | 1.216 | 99,349,014 | 1,641 | 1,619 | 1626.3 | | | |
| 2014 / 1 | 55,592 | 77,867,785 | 1.158 | 90,141,695 | 1,621 | 1,624 | 1628.0 | | | |
| 2014 / 2 | 79,155 | 111,616,003 | 1.158 | 129,209,475 | 1,632 | 1,632 | 1629.7 | | | |
| 2014 / 3 | 89,874 | 128,096,479 | 1.158 | 148,287,687 | 1,650 | 1,638 | 1631.5 | | | |
| 2014 / 4 | 60,646 | 86,711,448 | 1.158 | 100,379,340 | 1,655 | 1,641 | 1633.2 | | | |
| 2015 / 1 | 57,651 | 85,327,979 | 1.103 | 94,074,097 | 1,632 | 1,643 | 1634.9 | 1650.5 | | |
| 2015 / 2 | 82,158 | 122,581,230 | 1.103 | 135,145,806 | 1,645 | 1,646 | 1636.6 | 1650.8 | | |
| 2015 / 3 | 84,402 | 127,421,809 | 1.103 | 140,482,544 | 1,664 | 1,650 | 1638.3 | 1651.2 | | |
| 2015 / 4 | 57,308 | 87,342,988 | 1.103 | 96,295,644 | 1,680 | 1,655 | 1640.0 | 1651.6 | | |
| 2016 / 1 | 54,113 | 84,557,230 | 1.050 | 88,785,092 | 1,641 | 1,657 | 1641.7 | 1652.0 | 1655.2 | |
| 2016 / 2 | 79,991 | 125,845,764 | 1.050 | 132,138,052 | 1,652 | 1,659 | 1643.4 | 1652.3 | 1655.2 | |
| 2016 / 3 | 77,932 | 123,784,247 | 1.050 | 129,973,459 | 1,668 | 1,660 | 1645.2 | 1652.7 | 1655.3 | |
| 2016 / 4 | 51,030 | 81,959,449 | 1.050 | 86,057,421 | 1,686 | 1,661 | 1646.9 | 1653.1 | 1655.3 | |
| 2017 / 1 | 50,991 | 79,037,984 | 1.050 | 82,989,883 | 1,628 | 1,659 | 1648.6 | 1653.4 | 1655.3 | 1648.9 |
| 2017 / 2 | 73,614 | 114,547,681 | 1.050 | 120,275,065 | 1,634 | 1,654 | 1650.3 | 1653.8 | 1655.3 | 1649.8 |
| 2017 / 3 | 68,864 | 108,614,623 | 1.050 | 114,045,354 | 1,656 | 1,650 | 1652.1 | 1654.2 | 1655.3 | 1650.7 |
| 2017 / 4 | 45,960 | 73,697,340 | 1.050 | 77,382,207 | 1,684 | 1,648 | 1653.8 | 1654.6 | 1655.4 | 1651.7 |
| 2018 / 1 | 44,101 | 71,679,332 | 1.000 | 71,679,332 | 1,625 | 1,649 | 1655.5 | 1654.9 | 1655.4 | 1652.6 |
| 2018 / 2 | 63,851 | 104,163,394 | 1.000 | 104,163,394 | 1,631 | 1,649 | 1657.3 | 1655.3 | 1655.4 | 1653.5 |
| 2018 / 3 | 61,408 | 101,951,681 | 1.000 | 101,951,681 | 1,660 | 1,650 | 1659.0 | 1655.7 | 1655.4 | 1654.4 |
| 2018 / 4 | 40,418 | 68,300,637 | 1.000 | 68,300,637 | 1,690 | 1,650 | 1660.7 | 1656.0 | 1655.4 | 1655.4 |
| 2019 / 1 | 39,758 | 65,036,872 | 1.000 | 65,036,872 | 1,636 | 1,652 | 1662.5 | 1656.4 | 1655.4 | 1656.3 |
| 2019 / 2 | 60,805 | 99,948,528 | 1.000 | 99,948,528 | 1,644 | 1,656 | 1664.2 | 1656.8 | 1655.5 | 1657.2 |
| 2019 / 3 | 57,547 | 97,063,357 | 1.000 | 97,063,357 | 1,687 | 1,664 | 1665.9 | 1657.2 | 1655.5 | 1658.2 |
| 2019 / 4 | 38,375 | 65,697,652 | 1.000 | 65,697,652 | 1,712 | 1,668 | 1667.7 | 1657.5 | 1655.5 | 1659.1 |

| | | | | | | | | | | |
|------------------------------|--|--|--|--|--|--|-------|-------|------|-------|
| (12) Average Annual Change | | | | | | | 0.4% | 0.1% | 0.0% | 0.2% |
| (13) Correlation Coefficient | | | | | | | 75.6% | 11.3% | 0.0% | 26.4% |
| (14) Selected Premium Trend | | | | | | | | | | 0.1% |

Notes: (2) Provided by TWIA (7) annualized average written premium
(3) Provided by TWIA (8) - (11) = (6) fitted to an exponential distribution
(4) Cumulative effect of annual rate changes (12) Fitted average annual change
(5) = (3) * (4) Indexed to 2019 / 4 (13) Evaluates the predictability of the fitted curve
(6) = (5) / (2) (14) Selected based on judgment

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

Loss Trend Analysis
 Summary of Indices and Calculation of Prospective Loss Costs

| Calendar Year | Statewide | Coastal | Modified | Weighted |
|---------------|-----------|---------|----------|----------|
| Ending | Boeckh | Boeckh | CPI | Average |
| 9/30/xx | (1) | (2) | (3) | (4) |
| | (1) | (2) | (3) | (5) |
| 2010 | 1.204 | 1.212 | 1.118 | 1.189 |
| 2011 | 1.189 | 1.208 | 1.106 | 1.183 |
| 2012 | 1.164 | 1.185 | 1.082 | 1.159 |
| 2013 | 1.128 | 1.147 | 1.074 | 1.129 |
| 2014 | 1.094 | 1.103 | 1.064 | 1.093 |
| 2015 | 1.066 | 1.077 | 1.051 | 1.071 |
| 2016 | 1.073 | 1.085 | 1.035 | 1.073 |
| 2017 | 1.061 | 1.072 | 1.028 | 1.061 |
| 2018 | 1.023 | 1.032 | 1.021 | 1.029 |
| 2019 | 1.000 | 1.000 | 1.000 | 1.000 |

Factors to Adjust For Prospective Loss Costs

| | | | | |
|------------------|-------|-------|-------|-------|
| (6) Fitted Trend | 1.7% | 1.9% | 1.1% | 1.7% |
| (7) Cost Factor | 1.047 | 1.053 | 1.031 | 1.047 |

Notes:

- (2) = Exhibit 3, Sheet 3b
- (3) = Exhibit 3, Sheet 3c
- (4) = Exhibit 3, Sheet 3d
- (5) = 25% CPI and 75% Coastal Boeckh (most appropriate available by year)
- (6) = (2) - (5) fitted to an exponential curve using 5 years' data
- (7) = $[1 + (6)]^{2.75}$ (trended from 4/1/2019 to 1/1/2022)

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

Loss Trend Analysis
 Boeckh Residential Construction Index Trend (Statewide)

| Calendar Year Ending | Texas Statewide Index | 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) |
| 3/31/2010 | 2047.26 | 2025.39 | 2031.85 | | | | | | |
| 6/30/2010 | 2046.15 | 2036.74 | 2042.17 | | | | | | |
| 9/30/2010 | 2050.53 | 2048.10 | 2052.55 | | | | | | |
| 12/31/2010 | 2057.95 | 2059.45 | 2062.97 | | | | | | |
| 3/31/2011 | 2065.10 | 2070.81 | 2073.45 | | | | | | |
| 6/30/2011 | 2070.21 | 2082.16 | 2083.99 | | | | | | |
| 9/30/2011 | 2075.77 | 2093.52 | 2094.57 | | | | | | |
| 12/31/2011 | 2083.16 | 2104.88 | 2105.21 | | | | | | |
| 3/31/2012 | 2092.69 | 2116.23 | 2115.90 | | | | | | |
| 6/30/2012 | 2103.68 | 2127.59 | 2126.65 | | | | | | |
| 9/30/2012 | 2121.46 | 2138.94 | 2137.46 | | | | | | |
| 12/31/2012 | 2139.97 | 2150.30 | 2148.31 | | | | | | |
| 3/31/2013 | 2155.46 | 2161.65 | 2159.23 | | | | | | |
| 6/30/2013 | 2172.56 | 2173.01 | 2170.19 | | | | | | |
| 9/30/2013 | 2188.33 | 2184.37 | 2181.22 | | | | | | |
| 12/31/2013 | 2202.66 | 2195.72 | 2192.30 | | | | | | |
| 3/31/2014 | 2219.67 | 2207.08 | 2203.43 | | | | | | |
| 6/30/2014 | 2239.01 | 2218.43 | 2214.63 | | | | | | |
| 9/30/2014 | 2257.42 | 2229.79 | 2225.88 | | | | | | |
| 12/31/2014 | 2275.56 | 2241.14 | 2237.18 | | | | | | |
| 3/31/2015 | 2293.59 | 2252.50 | 2248.55 | 2263.67 | 2265.51 | | | | |
| 6/30/2015 | 2307.55 | 2263.85 | 2259.97 | 2273.85 | 2275.22 | | | | |
| 9/30/2015 | 2316.02 | 2275.21 | 2271.45 | 2284.04 | 2284.98 | | | | |
| 12/31/2015 | 2319.90 | 2286.57 | 2282.99 | 2294.22 | 2294.78 | | | | |
| 3/31/2016 | 2316.44 | 2297.92 | 2294.58 | 2304.40 | 2304.62 | 2269.92 | 2271.59 | | |
| 6/30/2016 | 2308.41 | 2309.28 | 2306.24 | 2314.59 | 2314.51 | 2283.69 | 2284.76 | | |
| 9/30/2016 | 2301.26 | 2320.63 | 2317.96 | 2324.77 | 2324.44 | 2297.46 | 2298.01 | | |
| 12/31/2016 | 2296.54 | 2331.99 | 2329.73 | 2334.95 | 2334.41 | 2311.23 | 2311.34 | | |
| 3/31/2017 | 2299.40 | 2343.34 | 2341.56 | 2345.14 | 2344.42 | 2325.00 | 2324.74 | 2297.47 | 2298.43 |
| 6/30/2017 | 2309.77 | 2354.70 | 2353.46 | 2355.32 | 2354.47 | 2338.77 | 2338.22 | 2315.33 | 2315.68 |
| 9/30/2017 | 2326.30 | 2366.05 | 2365.41 | 2365.50 | 2364.57 | 2352.54 | 2351.77 | 2333.20 | 2333.05 |
| 12/31/2017 | 2343.81 | 2377.41 | 2377.43 | 2375.69 | 2374.71 | 2366.31 | 2365.41 | 2351.06 | 2350.55 |
| 3/31/2018 | 2363.74 | 2388.77 | 2389.51 | 2385.87 | 2384.90 | 2380.09 | 2379.12 | 2368.92 | 2368.19 |
| 6/30/2018 | 2386.99 | 2400.12 | 2401.64 | 2396.05 | 2395.13 | 2393.86 | 2392.92 | 2386.78 | 2385.95 |
| 9/30/2018 | 2413.52 | 2411.48 | 2413.84 | 2406.24 | 2405.40 | 2407.63 | 2406.79 | 2404.64 | 2403.85 |
| 12/31/2018 | 2441.12 | 2422.83 | 2426.11 | 2416.42 | 2415.72 | 2421.40 | 2420.75 | 2422.51 | 2421.89 |
| 3/31/2019 | 2459.13 | 2434.19 | 2438.43 | 2426.60 | 2426.08 | 2435.17 | 2434.78 | 2440.37 | 2440.05 |
| 6/30/2019 | 2468.96 | 2445.54 | 2450.82 | 2436.79 | 2436.49 | 2448.94 | 2448.90 | 2458.23 | 2458.36 |
| 9/30/2019 | 2469.01 | 2456.90 | 2463.26 | 2446.97 | 2446.94 | 2462.71 | 2463.10 | 2476.09 | 2476.80 |
| 12/31/2019 | 2466.82 | 2468.25 | 2475.78 | 2457.15 | 2457.43 | 2476.48 | 2477.38 | 2493.96 | 2495.38 |
| Annual Trend | | 1.8% | 2.0% | 1.7% | 1.7% | 2.2% | 2.3% | 2.9% | 3.0% |
| R-Squared | | 0.967 | 0.967 | 0.806 | 0.808 | 0.895 | 0.896 | 0.961 | 0.961 |

Notes:

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

Rate Level Review

Loss Trend Analysis

Boeckh Residential Construction Index Trend (Coastal)

| Calendar Year Ending | Texas Coastal Index | 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) |
| 3/31/2010 | 2075.10 | 2028.38 | 2035.95 | | | | | | |
| 6/30/2010 | 2072.76 | 2040.30 | 2046.71 | | | | | | |
| 9/30/2010 | 2070.98 | 2052.21 | 2057.53 | | | | | | |
| 12/31/2010 | 2070.61 | 2064.13 | 2068.41 | | | | | | |
| 3/31/2011 | 2073.42 | 2076.05 | 2079.34 | | | | | | |
| 6/30/2011 | 2074.47 | 2087.97 | 2090.34 | | | | | | |
| 9/30/2011 | 2078.09 | 2099.89 | 2101.39 | | | | | | |
| 12/31/2011 | 2083.46 | 2111.81 | 2112.49 | | | | | | |
| 3/31/2012 | 2089.96 | 2123.73 | 2123.66 | | | | | | |
| 6/30/2012 | 2099.33 | 2135.64 | 2134.89 | | | | | | |
| 9/30/2012 | 2118.82 | 2147.56 | 2146.18 | | | | | | |
| 12/31/2012 | 2139.88 | 2159.48 | 2157.52 | | | | | | |
| 3/31/2013 | 2157.74 | 2171.40 | 2168.93 | | | | | | |
| 6/30/2013 | 2175.63 | 2183.32 | 2180.39 | | | | | | |
| 9/30/2013 | 2189.62 | 2195.24 | 2191.92 | | | | | | |
| 12/31/2013 | 2203.37 | 2207.15 | 2203.51 | | | | | | |
| 3/31/2014 | 2227.71 | 2219.07 | 2215.16 | | | | | | |
| 6/30/2014 | 2252.63 | 2230.99 | 2226.87 | | | | | | |
| 9/30/2014 | 2275.00 | 2242.91 | 2238.64 | | | | | | |
| 12/31/2014 | 2296.77 | 2254.83 | 2250.47 | | | | | | |
| 3/31/2015 | 2310.58 | 2266.75 | 2262.37 | 2270.81 | 2273.22 | | | | |
| 6/30/2015 | 2322.52 | 2278.66 | 2274.33 | 2282.34 | 2284.14 | | | | |
| 9/30/2015 | 2330.38 | 2290.58 | 2286.35 | 2293.86 | 2295.12 | | | | |
| 12/31/2015 | 2333.26 | 2302.50 | 2298.44 | 2305.39 | 2306.15 | | | | |
| 3/31/2016 | 2328.65 | 2314.42 | 2310.59 | 2316.91 | 2317.24 | 2275.62 | 2277.89 | | |
| 6/30/2016 | 2320.80 | 2326.34 | 2322.81 | 2328.44 | 2328.37 | 2291.45 | 2292.93 | | |
| 9/30/2016 | 2313.59 | 2338.26 | 2335.09 | 2339.97 | 2339.56 | 2307.28 | 2308.06 | | |
| 12/31/2016 | 2308.17 | 2350.18 | 2347.43 | 2351.49 | 2350.81 | 2323.11 | 2323.30 | | |
| 3/31/2017 | 2311.24 | 2362.09 | 2359.84 | 2363.02 | 2362.11 | 2338.94 | 2338.63 | 2305.74 | 2307.14 |
| 6/30/2017 | 2323.79 | 2374.01 | 2372.32 | 2374.54 | 2373.46 | 2354.77 | 2354.07 | 2326.48 | 2327.04 |
| 9/30/2017 | 2340.80 | 2385.93 | 2384.86 | 2386.07 | 2384.87 | 2370.59 | 2369.61 | 2347.23 | 2347.12 |
| 12/31/2017 | 2360.09 | 2397.85 | 2397.46 | 2397.60 | 2396.33 | 2386.42 | 2385.25 | 2367.98 | 2367.36 |
| 3/31/2018 | 2380.33 | 2409.77 | 2410.14 | 2409.12 | 2407.84 | 2402.25 | 2400.99 | 2388.73 | 2387.79 |
| 6/30/2018 | 2404.16 | 2421.69 | 2422.88 | 2420.65 | 2419.42 | 2418.08 | 2416.84 | 2409.48 | 2408.38 |
| 9/30/2018 | 2433.32 | 2433.60 | 2435.69 | 2432.17 | 2431.05 | 2433.91 | 2432.79 | 2430.22 | 2429.16 |
| 12/31/2018 | 2467.60 | 2445.52 | 2448.56 | 2443.70 | 2442.73 | 2449.74 | 2448.85 | 2450.97 | 2450.11 |
| 3/31/2019 | 2494.19 | 2457.44 | 2461.51 | 2455.22 | 2454.47 | 2465.57 | 2465.01 | 2471.72 | 2471.25 |
| 6/30/2019 | 2508.16 | 2469.36 | 2474.52 | 2466.75 | 2466.27 | 2481.40 | 2481.28 | 2492.47 | 2492.57 |
| 9/30/2019 | 2510.44 | 2481.28 | 2487.60 | 2478.28 | 2478.12 | 2497.22 | 2497.66 | 2513.21 | 2514.07 |
| 12/31/2019 | 2504.07 | 2493.20 | 2500.75 | 2489.80 | 2490.03 | 2513.05 | 2514.14 | 2533.96 | 2535.76 |
| Annual Trend | | 1.9% | 2.1% | 1.9% | 1.9% | 2.5% | 2.7% | 3.3% | 3.5% |
| R-Squared | | 0.955 | 0.957 | 0.794 | 0.796 | 0.895 | 0.896 | 0.966 | 0.966 |

Notes:

- (2) = Average Index for Corpus Christi and Houston
- (3) - (10) = (2) fitted to linear and exponential distributions

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) |
| 9/30/2009 | 179.30 | 177.20 | 177.41 | | | | | | |
| 12/31/2009 | 178.80 | 177.74 | 177.91 | | | | | | |
| 3/31/2010 | 178.46 | 178.28 | 178.42 | | | | | | |
| 6/30/2010 | 178.56 | 178.81 | 178.93 | | | | | | |
| 9/30/2010 | 178.59 | 179.35 | 179.44 | | | | | | |
| 12/31/2010 | 178.72 | 179.88 | 179.95 | | | | | | |
| 3/31/2011 | 178.97 | 180.42 | 180.47 | | | | | | |
| 6/30/2011 | 179.61 | 180.96 | 180.98 | | | | | | |
| 9/30/2011 | 180.52 | 181.49 | 181.50 | | | | | | |
| 12/31/2011 | 181.55 | 182.03 | 182.01 | | | | | | |
| 3/31/2012 | 182.78 | 182.56 | 182.53 | | | | | | |
| 6/30/2012 | 183.87 | 183.10 | 183.05 | | | | | | |
| 9/30/2012 | 184.57 | 183.64 | 183.58 | | | | | | |
| 12/31/2012 | 185.03 | 184.17 | 184.10 | | | | | | |
| 3/31/2013 | 185.38 | 184.71 | 184.63 | | | | | | |
| 6/30/2013 | 185.51 | 185.24 | 185.15 | | | | | | |
| 9/30/2013 | 185.82 | 185.78 | 185.68 | | | | | | |
| 12/31/2013 | 186.03 | 186.31 | 186.21 | | | | | | |
| 3/31/2014 | 186.43 | 186.85 | 186.74 | | | | | | |
| 6/30/2014 | 186.87 | 187.39 | 187.27 | | | | | | |
| 9/30/2014 | 187.59 | 187.92 | 187.81 | | | | | | |
| 12/31/2014 | 188.62 | 188.46 | 188.34 | | | | | | |
| 3/31/2015 | 189.46 | 188.99 | 188.88 | 189.11 | 189.16 | | | | |
| 6/30/2015 | 189.59 | 189.53 | 189.42 | 189.64 | 189.67 | | | | |
| 9/30/2015 | 190.03 | 190.07 | 189.96 | 190.17 | 190.19 | | | | |
| 12/31/2015 | 190.50 | 190.60 | 190.50 | 190.69 | 190.70 | | | | |
| 3/31/2016 | 190.95 | 191.14 | 191.05 | 191.22 | 191.22 | 191.21 | 191.24 | | |
| 6/30/2016 | 192.03 | 191.67 | 191.59 | 191.75 | 191.74 | 191.74 | 191.76 | | |
| 9/30/2016 | 192.82 | 192.21 | 192.14 | 192.27 | 192.26 | 192.27 | 192.28 | | |
| 12/31/2016 | 193.56 | 192.75 | 192.69 | 192.80 | 192.78 | 192.80 | 192.80 | | |
| 3/31/2017 | 193.86 | 193.28 | 193.24 | 193.33 | 193.31 | 193.33 | 193.32 | 192.86 | 192.89 |
| 6/30/2017 | 194.07 | 193.82 | 193.79 | 193.86 | 193.83 | 193.85 | 193.85 | 193.45 | 193.47 |
| 9/30/2017 | 194.20 | 194.35 | 194.34 | 194.38 | 194.36 | 194.38 | 194.37 | 194.05 | 194.05 |
| 12/31/2017 | 194.18 | 194.89 | 194.90 | 194.91 | 194.89 | 194.91 | 194.90 | 194.64 | 194.64 |
| 3/31/2018 | 194.71 | 195.42 | 195.45 | 195.44 | 195.42 | 195.44 | 195.42 | 195.23 | 195.23 |
| 6/30/2018 | 195.24 | 195.96 | 196.01 | 195.97 | 195.95 | 195.97 | 195.95 | 195.83 | 195.82 |
| 9/30/2018 | 195.63 | 196.50 | 196.57 | 196.49 | 196.48 | 196.50 | 196.48 | 196.42 | 196.41 |
| 12/31/2018 | 196.26 | 197.03 | 197.13 | 197.02 | 197.01 | 197.03 | 197.02 | 197.01 | 197.00 |
| 3/31/2019 | 197.08 | 197.57 | 197.69 | 197.55 | 197.55 | 197.56 | 197.55 | 197.60 | 197.59 |
| 6/30/2019 | 198.20 | 198.10 | 198.26 | 198.08 | 198.09 | 198.09 | 198.09 | 198.20 | 198.19 |
| 9/30/2019 | 199.66 | 198.64 | 198.82 | 198.60 | 198.62 | 198.62 | 198.62 | 198.79 | 198.79 |
| 12/31/2019 | 200.38 | 199.18 | 199.39 | 199.13 | 199.16 | 199.14 | 199.16 | 199.38 | 199.39 |
| Annual Trend | | 1.1% | 1.1% | 1.1% | 1.1% | 1.1% | 1.1% | 1.2% | 1.2% |
| R-Squared | | 0.987 | 0.987 | 0.962 | 0.963 | 0.930 | 0.932 | 0.902 | 0.905 |

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 Non-hurricane LAE factor Using TWIA Commercial + Residential Experience

| Accident Year | Paid Loss (\$000) | Paid ALAE (\$000) | Paid ULAE (\$000) |
|---------------|-------------------|-------------------|-------------------|
| (1) | (2) | (3) | (4) |
| 2010 | 18,005 | 323 | 3,951 |
| 2011 | 96,089 | 725 | 14,386 |
| 2012 | 66,741 | 829 | 14,961 |
| 2013 | 70,811 | 901 | 12,922 |
| 2014 | 7,002 | 1,017 | 5,796 |
| 2015 | 138,583 | 2,679 | 37,109 |
| 2016 | 28,409 | 484 | 14,882 |
| 2017 | 1,338,484 | 6,905 | 249,300 |
| 2018 | 11,663 | 117 | 6,280 |
| 2019 | 12,936 | 7 | 7,053 |

| | | | |
|----------------------------------|---------|-------|---------|
| Total (Excluding 2017) | 450,239 | 7,082 | 117,340 |
| Paid ALAE to Loss ratio | | | 0.016 |
| Paid ULAE to Loss ratio | | | 0.261 |
| Selected Non-Hurricane LAE ratio | | | 0.276 |

Notes:

- (2) = Cumulative Loss Payments as of 12/31/19 from TWIA's 2019 Schedule P
- (3) = Cumulative DCC Payments as of 12/31/19 from TWIA's 2019 Schedule P
- (4) = Cumulative AAO Payments as of 12/31/19 from TWIA's 2019 Schedule P
- Selected Non-Hurricane LAE ratio = ((3)Total+(4)Total)/(2)Total
- Excluded 2017 in Non-Hurricane LAE calculation as 2017 was a hurricane year (Harvey)

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

Development of Hurricane LAE factor Using TWIA Commercial + Residential Experience

| Hurricane (Year) | Loss | ALAE | ULAE | LAE Ratio |
|------------------------------|----------------------|--------------------|--------------------|-----------|
| (1) | (2) | (3) | (4) | (5) |
| Ike (2008) | 1,950,833,975 | 186,293,648 | 127,269,430 | 16.1% |
| Harvey (2017) | 1,336,923,861 | 144,947,255 | 106,821,442 | 18.8% |
| Total | 3,287,757,836 | 331,240,903 | 234,090,872 | |
| Paid ALAE to Loss ratio | | | | 0.101 |
| Paid ULAE to Loss ratio | | | | 0.071 |
| Selected Hurricane LAE ratio | | | | 0.172 |

Notes:

- (2) = Cumulative Loss Payments as of 06/30/2020; Ike Losses reflect TWIA's estimated Residential & Commercial Hurricane Ike litigation cost reduction of \$306,292,226 stemming from House Bill 3
- (3) = Cumulative ALAE Payments as of 06/30/2020
- (4) = Cumulative ALAE Payments as of 06/30/2020
- (5) = ((3)+(4))/(2)

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

| Basis for Hurricane Loss Ratio (1) | Indicated Loss Ratio (2) | LAE Factor (3) | Indicated Loss & LAE Ratio (4) | Selected Model Weight (5) |
|---------------------------------------|-----------------------------------|----------------------|---|------------------------------------|
| Industry Experience | 30.9% | 0.172 | 36.2% | |
| <u>Hurricane Models</u> | | | | |
| AIR Model | 50.0% | 0.172 | 58.6% | 25% |
| RMS Model | 39.1% | 0.172 | 45.9% | 75% |
| Weighted Average of Models | 41.8% | 0.172 | 49.0% | |

Notes:

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

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

Industry Experience -- Residential Extended Coverage
1966 - 2019 -- Hurricane Years Only

| Accident Year | Earned Premium at Current TWIA Rate Level | Incurred Loss Ratio |
|--|---|--|
| (1) | (2) | (3) |
| 1968 | 33,975,804 | 32.9% |
| 1970 | 34,658,928 | 60.0% |
| 1971 | 34,539,514 | 65.8% |
| 1980 | 58,664,250 | 74.8% |
| 1983 | 75,333,571 | 430.2% |
| 1986 | 95,974,159 | 9.3% |
| 1989 | 109,248,693 | 7.0% |
| 1990 | 105,685,439 | 17.0% |
| 1999 | 184,177,966 | 8.5% |
| 2003 | 225,873,236 | 20.1% |
| 2005 | 248,665,748 | 111.6% |
| 2007 | 384,632,941 | 5.1% |
| 2008 | 477,636,241 | 419.9% |
| 2017 | 559,948,822 | 218.7% |
| <hr/> | | |
| (4) Simple Average Loss Ratio for Hurricane Years | | 105.8% |
| (5) Selected Non-Hurricane Loss Ratio | | 9.1% |
| (6) Average Hurricane Loss Ratio for Hurricane Years | | 96.7% |
| (7) Historical Hurricane Frequency | | |
| (a) 54-Year (1/1/1966 - 12/31/2019) | | 0.241 (1 Hurricane year every 4.1 years) |
| (a) 169-Year (1/1/1851 - 12/31/2019) | | 0.320 (1 Hurricane year every 3.1 years) |
| Selected Frequency | | 0.320 (1 Hurricane every year 3.1 years) |
| (8) Indicated Hurricane Loss Ratio | | 30.9% |

Notes:

- (2) Exhibit 6, Sheet 2.
- (3) Exhibit 6, Sheet 2.
- (4) = Average of (3)
- (5) Exhibit 6, Sheet 2
- (6) = (4) - (5)
- (7) Exhibit 9
- (8) = (6) * (7) Selected

Residential Property - Wind & Hail

Rate Level Review

Industry Experience -- Residential Extended Coverage
1966 - 2019

| Accident Year | Earned Premium | Earned Premium at CMR | Earned Premium at Current TWIA Rate Level | Incurred Losses | Incurred Loss Ratio | Hurricane Indicator |
|--------------------------------|----------------|-----------------------|---|-----------------|---------------------|---------------------|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 1966 | | 13,011,528 | 34,051,169 | 1,178,131 | 3.5% | |
| 1967 | | 13,130,860 | 34,363,461 | 663,024 | 1.9% | |
| 1968 | | 12,982,730 | 33,975,804 | 11,171,683 | 32.9% | H |
| 1969 | | 12,499,176 | 32,710,344 | 3,218,757 | 9.8% | |
| 1970 | | 13,243,763 | 34,658,928 | 20,786,468 | 60.0% | H |
| 1971 | 10,640,335 | 13,198,133 | 34,539,514 | 22,731,206 | 65.8% | H |
| 1972 | 12,302,040 | 13,902,740 | 36,383,471 | 2,242,093 | 6.2% | |
| 1973 | 12,935,382 | 12,724,690 | 33,300,514 | 4,933,261 | 14.8% | |
| 1974 | 12,794,652 | 11,637,700 | 30,455,861 | 2,293,219 | 7.5% | |
| 1975 | 13,633,616 | 12,392,309 | 32,430,673 | 3,062,897 | 9.4% | |
| 1976 | 17,088,846 | 13,884,831 | 36,336,603 | 1,522,489 | 4.2% | |
| 1977 | 23,643,216 | 17,474,220 | 45,730,034 | 972,383 | 2.1% | |
| 1978 | 28,157,329 | 19,320,941 | 50,562,903 | 1,449,823 | 2.9% | |
| 1979 | 32,867,536 | 21,563,567 | 56,431,855 | 3,940,899 | 7.0% | |
| 1980 | 32,179,994 | 22,416,603 | 58,664,250 | | 74.8% | H |
| 1981 | 30,817,037 | 29,693,419 | 77,707,678 | | 3.2% | |
| 1982 | 28,140,159 | 32,398,474 | 84,786,806 | | 2.3% | |
| 1983 | 28,786,234 | 39,817,626 | 75,333,571 | | 430.2% | H |
| 1984 | 20,078,668 | 34,626,400 | 52,545,874 | | 12.1% | |
| 1985 | 30,043,452 | 53,801,222 | 78,623,714 | | 5.2% | |
| 1986 | 36,673,352 | | 95,974,159 | | 9.3% | H |
| 1987 | 41,598,709 | | 108,863,822 | | 2.4% | |
| 1988 | 45,044,392 | | 117,881,171 | | 10.1% | |
| 1989 | 41,745,774 | | 109,248,693 | | 7.0% | H |
| 1990 | 40,384,195 | | 105,685,439 | | 17.0% | H |
| 1991 | 46,237,137 | | 121,002,587 | | 70.0% | |
| 1992 | 44,512,572 | | 116,489,401 | | 6.3% | |
| 1993 | 50,741,120 | | 132,789,511 | | 10.3% | |
| 1994 | 57,584,585 | | 150,698,860 | | 4.9% | |
| 1995 | 60,740,049 | | 158,956,709 | | 6.8% | |
| 1996 | 71,865,572 | | 188,072,203 | | 3.5% | |
| 1997 | 79,154,547 | | 207,147,450 | | 4.3% | |
| 1998 | 80,238,260 | | 209,983,525 | | 19.2% | |
| 1999 | 71,026,552 | | 184,177,966 | | 8.5% | H |
| 2000 | 75,114,174 | | 179,188,154 | | 5.3% | |
| 2001 | 74,726,401 | | 150,433,000 | | 7.4% | |
| 2002 | 86,289,350 | | 173,710,570 | | 17.2% | |
| 2003 | 112,200,741 | | 225,873,236 | | 20.1% | H |
| 2004 | 123,050,217 | | 236,207,042 | | 1.7% | |
| 2005 | 135,380,924 | | 248,665,748 | | 111.6% | H |
| 2006 | 154,699,767 | | 283,468,384 | | 2.0% | |
| 2007 | 219,914,305 | | 384,632,941 | | 5.1% | H |
| 2008 | 289,558,186 | | 477,636,241 | | 419.9% | H |
| 2009 | 327,305,758 | | 490,534,995 | | 1.9% | |
| 2010 | 355,219,215 | | 499,964,244 | | 3.8% | |
| 2011 | 370,875,863 | | 509,107,482 | | 18.5% | |
| 2012 | 406,981,851 | | 532,077,164 | | 13.7% | |
| 2013 | 440,952,159 | | 549,111,155 | | 17.2% | |
| 2014 | 477,983,216 | | 567,000,312 | | 2.3% | |
| 2015 | 517,579,765 | | 584,847,630 | | 24.2% | |
| 2016 | 541,982,800 | | 583,476,869 | | 8.6% | |
| 2017 | 533,284,592 | | 559,948,822 | | 218.7% | H |
| 2018 | 516,732,311 | | 529,931,693 | | 3.5% | |
| 2019 | 509,619,292 | | 509,619,292 | | 5.4% | |
| Total / Average | 7,371,106,199 | 413,720,932 | 11,235,999,499 | | 34.1% | |
| Average of Non-Hurricane Years | | | | | 9.1% | |
| Selected | | | | | 9.1% | |

Notes: (2), (3) Source: TDI. Accident years ending 9/30/xx as of 12/31/2019
 (4) 1983 - 2019: Sum of Exhibit 6, Sheet 4 - Sheet 7, (4); 1966 - 1982: (3) * 2.6
 (5) Provided by TDI. Accident years ending 9/30/xx as of 12/31/2010
 (6) 1983 - 2019: Exhibit 6, Sheet 3; 1966 - 1981: (5) / (4)
 (7) "H" indicates occurrence of hurricane(s) during the time period (years ending 9/30/xx)

Rate Level Review

Industry Experience -- Residential Extended Coverage

| Accident Year | Loss Ratios by Territory / Tier | | | | Weighted Loss Ratio | Selected Loss Ratio | |
|---------------|---------------------------------|-------------|--------------|--------|---------------------|---------------------|--------|
| | Territory 8 | Territory 9 | Territory 10 | Tier 2 | | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | |
| 1983 | | 1052.2% | 6.2% | 142.5% | 145.2% | 430.2% | 430.2% |
| 1984 | | 3.2% | 5.8% | 20.8% | 33.1% | 12.1% | 12.1% |
| 1985 | | 1.7% | 7.1% | 6.9% | 11.1% | 5.2% | 5.2% |
| 1986 | | 1.0% | 2.4% | 18.2% | 12.1% | 9.3% | 9.3% |
| 1987 | | 0.5% | 3.5% | 3.2% | 6.3% | 2.4% | 2.4% |
| 1988 | | 4.9% | 6.0% | 15.8% | 6.4% | 10.1% | 10.1% |
| 1989 | | 5.5% | 5.7% | 8.3% | 15.3% | 7.0% | 7.0% |
| 1990 | | 28.9% | 10.4% | 10.6% | 21.3% | 17.0% | 17.0% |
| 1991 | | 58.5% | 12.9% | 103.5% | 15.4% | 70.0% | 70.0% |
| 1992 | | 1.2% | 11.4% | 7.7% | 17.5% | 6.3% | 6.3% |
| 1993 | | 12.5% | 11.0% | 8.0% | 21.4% | 10.3% | 10.3% |
| 1994 | | 2.3% | 5.7% | 6.4% | 7.6% | 4.9% | 4.9% |
| 1995 | | 2.8% | 8.6% | 8.6% | 22.5% | 6.8% | 6.8% |
| 1996 | | 1.3% | 4.7% | 4.4% | 9.0% | 3.5% | 3.5% |
| 1997 | | 1.7% | 4.0% | 6.3% | 7.7% | 4.3% | 4.3% |
| 1998 | | 17.6% | 9.9% | 24.4% | 9.3% | 19.2% | 19.2% |
| 1999 | | 2.0% | 17.2% | 9.8% | 9.8% | 8.5% | 8.5% |
| 2000 | | 0.9% | 2.4% | 9.7% | 10.9% | 5.3% | 5.3% |
| 2001 | | 5.4% | 7.8% | 7.9% | 35.6% | 7.4% | 7.4% |
| 2002 | | 24.4% | 5.8% | 16.5% | 10.6% | 17.2% | 17.2% |
| 2003 | | 5.1% | 8.2% | 36.5% | 10.3% | 20.1% | 20.1% |
| 2004 | | 1.3% | 1.9% | 1.9% | 3.9% | 1.7% | 1.7% |
| 2005 | | 51.1% | 2.7% | 203.6% | 37.2% | 111.6% | 111.6% |
| 2006 | | 1.0% | 1.7% | 2.8% | 4.9% | 2.0% | 2.0% |
| 2007 | | 2.7% | 1.6% | 8.3% | 4.9% | 5.1% | 5.1% |
| 2008 | | 694.6% | 2.2% | 382.2% | 418.4% | 419.9% | 419.9% |
| 2009 | | 2.9% | 0.9% | 1.3% | 9.4% | 1.9% | 1.9% |
| 2010 | | 1.2% | 5.6% | 4.8% | 10.9% | 3.8% | 3.8% |
| 2011 | | 1.0% | 27.3% | 28.4% | 6.0% | 18.5% | 18.5% |
| 2012 | | 8.3% | 28.9% | 9.5% | 85.0% | 13.7% | 13.7% |
| 2013 | | 40.7% | 9.1% | 2.8% | 19.6% | 17.2% | 17.2% |
| 2014 | | 0.5% | 2.5% | 3.1% | 17.7% | 2.3% | 2.3% |
| 2015 | | 12.7% | 12.2% | 37.5% | 35.1% | 24.2% | 24.2% |
| 2016 | | 8.3% | 12.7% | 6.4% | 35.8% | 8.6% | 8.6% |
| 2017 | | 30.9% | 339.8% | 315.9% | 60.2% | 218.7% | 218.7% |
| 2018 | | 2.4% | 2.2% | 4.6% | 10.4% | 3.5% | 3.5% |
| 2019 | | 4.1% | 1.6% | 7.3% | 26.8% | 5.4% | 5.4% |
| Average | | 56.7% | 16.5% | 40.4% | 33.1% | 41.5% | 41.5% |

TWIA 2019 Written Premium by Territory / Tier

| | Territory 8 | Territory 9 | Territory 10 | Tier 2 | Total |
|-------------|-------------|-------------|--------------|-----------|-------------|
| (8) Amount | 108,030,247 | 58,233,887 | 143,774,114 | 4,354,003 | 314,392,251 |
| (9) % Share | 34.4% | 18.5% | 45.7% | 1.4% | 100.0% |

Notes:

- (2) Exhibit 6, Sheet 4
- (3) Exhibit 6, Sheet 5
- (4) Exhibit 6, Sheet 6
- (5) Exhibit 6, Sheet 7
- (6) = Weighted average of (2) to (5), using (9)
- (7) = (6)
- (8) Provided by TWIA
- (9) = (8) / (8) Total

Residential Property - Wind & Hail

Rate Level Review

Industry Experience -- Residential Extended Coverage

Tier 1 -- Territory 8 (Galveston County)

| Accident Year | Earned Premium | Factor to TWIA Rate Level | Earned Premium at Current TWIA Rate Level | Incurred Loss | Incurred Loss Ratio |
|---------------|----------------------|---------------------------|---|----------------------|---------------------|
| (1) | (2) | (3) | (4) | (5) | (6) |
| 1983 | 4,317,605 | 2.617 | 11,299,172 | 118,889,570 | 1052.2% |
| 1984 | 3,512,853 | 2.617 | 9,193,136 | 292,543 | 3.2% |
| 1985 | 6,066,870 | 2.617 | 15,876,999 | 265,705 | 1.7% |
| 1986 | 6,846,710 | 2.617 | 17,917,840 | 187,218 | 1.0% |
| 1987 | 7,738,740 | 2.617 | 20,252,283 | 111,242 | 0.5% |
| 1988 | 8,043,378 | 2.617 | 21,049,520 | 1,026,666 | 4.9% |
| 1989 | 8,149,957 | 2.617 | 21,328,437 | 1,163,813 | 5.5% |
| 1990 | 7,816,199 | 2.617 | 20,454,993 | 5,908,943 | 28.9% |
| 1991 | 8,645,208 | 2.617 | 22,624,509 | 13,225,287 | 58.5% |
| 1992 | 5,826,467 | 2.617 | 15,247,863 | 180,484 | 1.2% |
| 1993 | 5,825,916 | 2.617 | 15,246,422 | 1,900,088 | 12.5% |
| 1994 | 6,996,874 | 2.617 | 18,310,819 | 420,038 | 2.3% |
| 1995 | 8,737,576 | 2.617 | 22,866,237 | 644,169 | 2.8% |
| 1996 | 11,652,672 | 2.617 | 30,495,044 | 406,004 | 1.3% |
| 1997 | 12,573,252 | 2.617 | 32,904,201 | 573,343 | 1.7% |
| 1998 | 13,838,930 | 2.617 | 36,216,480 | 6,371,206 | 17.6% |
| 1999 | 14,103,814 | 2.593 | 36,572,406 | 742,130 | 2.0% |
| 2000 | 15,784,218 | 2.386 | 37,653,943 | 324,948 | 0.9% |
| 2001 | 17,776,666 | 2.013 | 35,786,511 | 1,947,817 | 5.4% |
| 2002 | 20,514,469 | 2.013 | 41,298,029 | 10,059,284 | 24.4% |
| 2003 | 25,868,450 | 2.013 | 52,076,220 | 2,672,918 | 5.1% |
| 2004 | 30,357,860 | 1.920 | 58,274,910 | 731,759 | 1.3% |
| 2005 | 36,780,457 | 1.837 | 67,557,818 | 34,527,644 | 51.1% |
| 2006 | 43,562,211 | 1.832 | 79,822,419 | 813,430 | 1.0% |
| 2007 | 59,282,257 | 1.749 | 103,685,428 | 2,757,645 | 2.7% |
| 2008 | 73,789,694 | 1.650 | 121,718,652 | 845,466,768 | 694.6% |
| 2009 | 81,999,709 | 1.499 | 122,893,429 | 3,581,024 | 2.9% |
| 2010 | 89,665,314 | 1.407 | 126,202,213 | 1,451,547 | 1.2% |
| 2011 | 93,230,854 | 1.373 | 127,979,548 | 1,329,886 | 1.0% |
| 2012 | 99,629,727 | 1.307 | 130,253,235 | 10,756,644 | 8.3% |
| 2013 | 107,104,250 | 1.245 | 133,375,327 | 54,316,145 | 40.7% |
| 2014 | 114,784,032 | 1.186 | 136,160,810 | 691,708 | 0.5% |
| 2015 | 122,782,019 | 1.130 | 138,739,529 | 17,655,480 | 12.7% |
| 2016 | 127,007,324 | 1.077 | 136,730,973 | 11,291,643 | 8.3% |
| 2017 | 126,002,753 | 1.050 | 132,302,891 | 40,819,572 | 30.9% |
| 2018 | 122,707,170 | 1.026 | 125,841,595 | 2,980,015 | 2.4% |
| 2019 | 121,969,675 | 1.000 | 121,969,675 | 4,945,341 | 4.1% |
| Total | 1,671,292,130 | | 2,398,179,516 | 1,201,429,667 | 50.1% |

Notes:

(2) Provided by TDI. Accident years ending 9/30/xx as of 12/31/2019

(3) 1998 and prior judgementally selected; 1999 - 2019 based on TWIA on-level factors

(4) = (2) * (3)

(5) Provided by TDI. Accident yrs ending 9/30/xx as of 12/31/2019; 2008 lke incurred loss was adjusted down by \$206,858,309 to incorporate the statutory limitations on litigation cost that House Bill 3 provides

(6) = (5) / (4)

Residential Property - Wind & Hail

Rate Level Review

Industry Experience -- Residential Extended Coverage

Tier 1 -- Territory 9 (Nueces County)

| Accident Year | Earned Premium | Factor to TWIA Rate Level | Earned Premium at Current TWIA Rate Level | Incurred Loss | Incurred Loss Ratio |
|---------------|----------------|---------------------------|---|---------------|---------------------|
| (1) | (2) | (3) | (4) | (5) | (6) |
| 1983 | 2,331,938 | 2.617 | 6,102,682 | 377,010 | 6.2% |
| 1984 | 1,632,317 | 2.617 | 4,271,774 | 249,086 | 5.8% |
| 1985 | 2,505,564 | 2.617 | 6,557,061 | 467,721 | 7.1% |
| 1986 | 2,977,992 | 2.617 | 7,793,405 | 189,449 | 2.4% |
| 1987 | 3,639,667 | 2.617 | 9,525,009 | 335,212 | 3.5% |
| 1988 | 3,971,251 | 2.617 | 10,392,764 | 626,491 | 6.0% |
| 1989 | 3,702,536 | 2.617 | 9,689,537 | 550,215 | 5.7% |
| 1990 | 3,519,306 | 2.617 | 9,210,024 | 955,271 | 10.4% |
| 1991 | 4,065,190 | 2.617 | 10,638,602 | 1,367,254 | 12.9% |
| 1992 | 3,907,712 | 2.617 | 10,226,482 | 1,170,578 | 11.4% |
| 1993 | 4,552,395 | 2.617 | 11,913,617 | 1,312,776 | 11.0% |
| 1994 | 5,710,806 | 2.617 | 14,945,180 | 856,369 | 5.7% |
| 1995 | 6,908,552 | 2.617 | 18,079,679 | 1,552,987 | 8.6% |
| 1996 | 8,568,168 | 2.617 | 22,422,896 | 1,061,115 | 4.7% |
| 1997 | 8,425,344 | 2.617 | 22,049,126 | 882,561 | 4.0% |
| 1998 | 8,803,621 | 2.617 | 23,039,077 | 2,289,890 | 9.9% |
| 1999 | 8,465,256 | 2.593 | 21,951,137 | 3,778,386 | 17.2% |
| 2000 | 8,437,094 | 2.386 | 20,127,058 | 485,581 | 2.4% |
| 2001 | 8,894,552 | 2.013 | 17,905,774 | 1,394,445 | 7.8% |
| 2002 | 10,534,795 | 2.013 | 21,207,776 | 1,227,528 | 5.8% |
| 2003 | 13,881,847 | 2.013 | 27,945,784 | 2,295,803 | 8.2% |
| 2004 | 15,458,506 | 1.920 | 29,674,129 | 569,877 | 1.9% |
| 2005 | 17,471,646 | 1.837 | 32,091,670 | 872,451 | 2.7% |
| 2006 | 19,888,512 | 1.832 | 36,443,263 | 621,501 | 1.7% |
| 2007 | 29,704,042 | 1.749 | 51,952,751 | 833,793 | 1.6% |
| 2008 | 40,565,108 | 1.650 | 66,913,548 | 1,468,028 | 2.2% |
| 2009 | 46,363,445 | 1.499 | 69,485,158 | 615,469 | 0.9% |
| 2010 | 51,529,115 | 1.407 | 72,526,243 | 4,059,049 | 5.6% |
| 2011 | 52,931,755 | 1.373 | 72,660,303 | 19,843,778 | 27.3% |
| 2012 | 56,334,273 | 1.307 | 73,649,919 | 21,286,940 | 28.9% |
| 2013 | 60,101,696 | 1.245 | 74,843,747 | 6,825,640 | 9.1% |
| 2014 | 65,642,137 | 1.186 | 77,866,986 | 1,913,725 | 2.5% |
| 2015 | 72,124,134 | 1.130 | 81,497,832 | 9,916,873 | 12.2% |
| 2016 | 76,436,084 | 1.077 | 82,288,012 | 10,418,298 | 12.7% |
| 2017 | 77,008,517 | 1.050 | 80,858,943 | 274,719,455 | 339.8% |
| 2018 | 77,031,486 | 1.026 | 78,999,174 | 1,701,043 | 2.2% |
| 2019 | 76,490,369 | 1.000 | 76,490,369 | 1,230,125 | 1.6% |
| Total | 960,516,727 | | 1,364,236,488 | 380,321,773 | 27.9% |

Notes:

(2) Provided by TDI. Accident years ending 9/30/xx as of 12/31/2019

(3) 1998 and prior judgementally selected; 1999 - 2019 based on TWIA on-level factors

(4) = (2) * (3)

(5) Provided by TDI. Accident yrs ending 9/30/xx as of 12/31/2019

(6) = (5) / (4)

Residential Property - Wind & Hail

Rate Level Review

Industry Experience -- Residential Extended Coverage

Tier 1 -- Territory 10 (Other Tier 1)

| Accident Year | Earned Premium | Factor to TWIA Rate Level | Earned Premium at Current TWIA Rate Level | Incurred Loss | Incurred Loss Ratio |
|---------------|----------------|---------------------------|---|---------------|---------------------|
| (1) | (2) | (3) | (4) | (5) | (6) |
| 1983 | 5,888,781 | 2.617 | 15,410,940 | 21,953,626 | 142.5% |
| 1984 | 3,924,651 | 2.617 | 10,270,812 | 2,135,063 | 20.8% |
| 1985 | 5,808,825 | 2.617 | 15,201,695 | 1,055,065 | 6.9% |
| 1986 | 6,993,722 | 2.617 | 18,302,570 | 3,338,312 | 18.2% |
| 1987 | 7,677,374 | 2.617 | 20,091,688 | 634,637 | 3.2% |
| 1988 | 8,284,768 | 2.617 | 21,681,238 | 3,434,130 | 15.8% |
| 1989 | 7,733,295 | 2.617 | 20,238,033 | 1,670,422 | 8.3% |
| 1990 | 7,568,146 | 2.617 | 19,805,838 | 2,095,151 | 10.6% |
| 1991 | 8,287,605 | 2.617 | 21,688,663 | 22,444,044 | 103.5% |
| 1992 | 8,059,407 | 2.617 | 21,091,467 | 1,625,108 | 7.7% |
| 1993 | 8,448,603 | 2.617 | 22,109,995 | 1,776,572 | 8.0% |
| 1994 | 9,743,293 | 2.617 | 25,498,198 | 1,637,915 | 6.4% |
| 1995 | 10,745,995 | 2.617 | 28,122,268 | 2,416,675 | 8.6% |
| 1996 | 13,294,968 | 2.617 | 34,792,932 | 1,520,229 | 4.4% |
| 1997 | 15,708,220 | 2.617 | 41,108,412 | 2,569,544 | 6.3% |
| 1998 | 16,168,136 | 2.617 | 42,312,012 | 10,312,506 | 24.4% |
| 1999 | 14,452,667 | 2.593 | 37,477,010 | 3,655,754 | 9.8% |
| 2000 | 14,453,385 | 2.386 | 34,479,183 | 3,332,580 | 9.7% |
| 2001 | 15,173,521 | 2.013 | 30,546,076 | 2,426,814 | 7.9% |
| 2002 | 17,843,905 | 2.013 | 35,921,871 | 5,925,066 | 16.5% |
| 2003 | 23,423,208 | 2.013 | 47,153,662 | 17,213,668 | 36.5% |
| 2004 | 27,306,202 | 1.920 | 52,416,951 | 990,613 | 1.9% |
| 2005 | 31,012,304 | 1.837 | 56,962,957 | 115,989,785 | 203.6% |
| 2006 | 36,545,725 | 1.832 | 66,965,567 | 1,842,548 | 2.8% |
| 2007 | 69,945,120 | 1.749 | 122,334,912 | 10,105,722 | 8.3% |
| 2008 | 110,187,567 | 1.650 | 181,758,202 | 694,640,836 | 382.2% |
| 2009 | 128,275,387 | 1.499 | 192,247,050 | 2,522,159 | 1.3% |
| 2010 | 143,236,007 | 1.407 | 201,601,937 | 9,656,553 | 4.8% |
| 2011 | 151,387,931 | 1.373 | 207,812,737 | 59,069,922 | 28.4% |
| 2012 | 170,159,709 | 1.307 | 222,462,243 | 21,183,482 | 9.5% |
| 2013 | 183,495,510 | 1.245 | 228,504,225 | 6,488,552 | 2.8% |
| 2014 | 197,640,983 | 1.186 | 234,448,607 | 7,237,896 | 3.1% |
| 2015 | 212,320,998 | 1.130 | 239,915,547 | 89,978,392 | 37.5% |
| 2016 | 218,795,204 | 1.077 | 235,546,111 | 15,012,404 | 6.4% |
| 2017 | 212,533,686 | 1.050 | 223,160,370 | 705,069,821 | 315.9% |
| 2018 | 201,509,514 | 1.026 | 206,656,862 | 9,481,014 | 4.6% |
| 2019 | 194,394,581 | 1.000 | 194,394,581 | 14,185,711 | 7.3% |
| Total | 2,518,428,904 | | 3,430,493,424 | 1,876,628,291 | 54.7% |

Notes:

(2) Provided by TDI. Accident years ending 9/30/xx as of 12/31/2019

(3) 1998 and prior judgementally selected; 1999 - 2019 based on TWIA on-level factors

(4) = (2) * (3)

(5) Provided by TDI. Accident yrs ending 9/30/xx as of 12/31/2019

(6) = (5) / (4)

Residential Property - Wind & Hail

Rate Level Review

Industry Experience -- Residential Extended Coverage

Tier 2 -- (Territories 1 and 11)

| Accident Year | Earned Premium | Factor to TWIA Rate Level | Earned Premium at Current TWIA Rate Level | Incurred Loss | Incurred Loss Ratio |
|---------------|----------------------|---------------------------|---|----------------------|---------------------|
| (1) | (2) | (3) | (4) | (5) | (6) |
| 1983 | 16,247,909 | 2.617 | 42,520,778 | 61,752,490 | 145.2% |
| 1984 | 11,008,847 | 2.617 | 28,810,153 | 9,535,536 | 33.1% |
| 1985 | 15,662,193 | 2.617 | 40,987,959 | 4,532,749 | 11.1% |
| 1986 | 19,854,927 | 2.617 | 51,960,344 | 6,306,903 | 12.1% |
| 1987 | 22,542,928 | 2.617 | 58,994,843 | 3,739,010 | 6.3% |
| 1988 | 24,744,994 | 2.617 | 64,757,649 | 4,139,098 | 6.4% |
| 1989 | 22,159,987 | 2.617 | 57,992,686 | 8,884,751 | 15.3% |
| 1990 | 21,480,544 | 2.617 | 56,214,584 | 11,997,188 | 21.3% |
| 1991 | 25,239,134 | 2.617 | 66,050,814 | 10,178,608 | 15.4% |
| 1992 | 26,718,987 | 2.617 | 69,923,589 | 12,221,034 | 17.5% |
| 1993 | 31,914,206 | 2.617 | 83,519,477 | 17,910,197 | 21.4% |
| 1994 | 35,133,612 | 2.617 | 91,944,663 | 6,968,697 | 7.6% |
| 1995 | 34,347,927 | 2.617 | 89,888,525 | 20,240,594 | 22.5% |
| 1996 | 38,349,764 | 2.617 | 100,361,331 | 9,046,495 | 9.0% |
| 1997 | 42,447,731 | 2.617 | 111,085,711 | 8,514,675 | 7.7% |
| 1998 | 41,427,572 | 2.617 | 108,415,956 | 10,127,907 | 9.3% |
| 1999 | 34,004,815 | 2.593 | 88,177,413 | 8,680,187 | 9.8% |
| 2000 | 36,439,477 | 2.386 | 86,927,970 | 9,518,422 | 10.9% |
| 2001 | 32,881,662 | 2.013 | 66,194,638 | 23,547,404 | 35.6% |
| 2002 | 37,396,181 | 2.013 | 75,282,893 | 7,950,367 | 10.6% |
| 2003 | 49,027,236 | 2.013 | 98,697,570 | 10,177,909 | 10.3% |
| 2004 | 49,927,649 | 1.920 | 95,841,052 | 3,738,542 | 3.9% |
| 2005 | 50,116,517 | 1.837 | 92,053,303 | 34,201,898 | 37.2% |
| 2006 | 54,703,319 | 1.832 | 100,237,135 | 4,909,932 | 4.9% |
| 2007 | 60,982,886 | 1.749 | 106,659,850 | 5,242,698 | 4.9% |
| 2008 | 65,015,817 | 1.650 | 107,245,838 | 448,708,416 | 418.4% |
| 2009 | 70,667,217 | 1.499 | 105,909,359 | 9,952,501 | 9.4% |
| 2010 | 70,788,779 | 1.407 | 99,633,851 | 10,829,031 | 10.9% |
| 2011 | 73,325,323 | 1.373 | 100,654,894 | 5,992,356 | 6.0% |
| 2012 | 80,858,142 | 1.307 | 105,711,768 | 89,891,814 | 85.0% |
| 2013 | 90,250,703 | 1.245 | 112,387,856 | 22,062,101 | 19.6% |
| 2014 | 99,916,064 | 1.186 | 118,523,910 | 20,950,951 | 17.7% |
| 2015 | 110,352,614 | 1.130 | 124,694,722 | 43,749,835 | 35.1% |
| 2016 | 119,744,188 | 1.077 | 128,911,773 | 46,199,850 | 35.8% |
| 2017 | 117,739,636 | 1.050 | 123,626,618 | 74,392,945 | 60.2% |
| 2018 | 115,484,141 | 1.026 | 118,434,062 | 12,269,364 | 10.4% |
| 2019 | 116,764,667 | 1.000 | 116,764,667 | 31,309,739 | 26.8% |
| Total | 1,965,668,294 | | 3,296,000,203 | 1,130,372,194 | 34.3% |

Notes:

(2) Provided by TDI. Accident years ending 9/30/xx as of 12/31/2019

(3) 1998 and prior judgementally selected; 1999 - 2019 based on TWIA on-level factors

(4) = (2) * (3)

(5) Provided by TDI. Accident yrs ending 9/30/xx as of 12/31/2019

(6) = (5) / (4)

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

Exhibit 7

Hurricane Loss Ratio -- AIR Model

| County | TWIA Insured Limits (000s) as of 11/30/19 | Average Annual Modeled Loss | Modeled Loss Cost |
|---|---|-----------------------------------|----------------------|
| (1) | (2) | (3) | (4) |
| Aransas | 1,560,360 | 4,048,156 | 2.594 |
| Brazoria | 9,623,822 | 16,740,142 | 1.739 |
| Calhoun | 884,611 | 2,817,354 | 3.185 |
| Cameron | 2,184,121 | 3,809,606 | 1.744 |
| Chambers | 1,407,119 | 2,339,692 | 1.663 |
| Galveston | 18,526,442 | 77,100,858 | 4.162 |
| Harris | 1,104,156 | 4,328,428 | 3.920 |
| Jefferson | 6,147,764 | 12,035,432 | 1.958 |
| Kenedy | 5,642 | 4,499 | 0.797 |
| Kleberg | 185,682 | 173,144 | 0.932 |
| Matagorda | 1,085,936 | 2,977,903 | 2.742 |
| Nueces | 10,223,620 | 26,436,101 | 2.586 |
| Refugio | 74,314 | 108,541 | 1.461 |
| San Patricio | 1,622,088 | 3,119,364 | 1.923 |
| Willacy | 76,748 | 170,637 | 2.223 |
| Total | 54,712,424 | 156,209,857 | 2.855 |
| (5) Inforce-Premium as of Nov 30, 2019 at Present Rates | | | 312,674,278 |
| (6) Indicated Hurricane Loss Ratio | | | 50.0% |

Notes:

- (2) Provided by TWIA and Geo-coded by Willis Towers Watson
- (3) Modeled by Willis Towers Watson
- (4) = (3) / (2)
- (5) Provided by TWIA
- (6) = (3) Total / (5)

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

Hurricane Loss Ratio -- RMS Model

| County | TWIA Insured Limits (000s) as of 11/30/19 | Average Annual Modeled Loss | Modeled Loss Cost |
|---|---|-----------------------------------|----------------------|
| (1) | (2) | (3) | (4) |
| Aransas | 1,560,360 | 3,174,998 | 2.035 |
| Brazoria | 9,623,822 | 15,460,678 | 1.607 |
| Calhoun | 884,611 | 3,005,595 | 3.398 |
| Cameron | 2,184,121 | 4,377,331 | 2.004 |
| Chambers | 1,407,119 | 2,083,698 | 1.481 |
| Galveston | 18,526,442 | 54,690,996 | 2.952 |
| Harris | 1,104,156 | 3,072,939 | 2.783 |
| Jefferson | 6,147,764 | 11,158,959 | 1.815 |
| Kenedy | 5,642 | 7,857 | 1.393 |
| Kleberg | 185,682 | 263,633 | 1.420 |
| Matagorda | 1,085,936 | 2,962,256 | 2.728 |
| Nueces | 10,223,620 | 19,043,664 | 1.863 |
| Refugio | 74,314 | 142,951 | 1.924 |
| San Patricio | 1,622,088 | 2,739,079 | 1.689 |
| Willacy | 76,748 | 213,332 | 2.780 |
| Total | 54,712,424 | 122,397,965 | 2.237 |
| (5) Inforce-Premium as of Nov 30, 2019 at Present Rates | | | 312,674,278 |
| (6) Indicated Hurricane Loss Ratio | | | 39.1% |

Notes:

- (2) Provided by TWIA and Geo-coded by Willis Towers Watson
- (3) Modeled by Willis Towers Watson
- (4) = (3) / (2)
- (5) Provided by TWIA
- (6) = (3) Total / (5)

Texas Windstorm Insurance Association
Residential Property - Wind & Hail
Rate Level Review
Texas Hurricanes 1850 - 2019

| Landfall | | | Landfall | | |
|----------|-------|-------------------------------|----------|-------|------------|
| 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 |
| | | | 2017 | Aug | Harvey |

| Frequency | Date Period | # of Hurricane Years | Period | Annual Frequency |
|-----------|-----------------------|----------------------|--------|------------------|
| 54-Year | 1/1/1966 - 12/31/2019 | 13 | 54 | 0.241 |
| 169-Year | 1/1/1851 - 12/31/2019 | 54 | 169 | 0.320 |

Notes:
(1), (2) from NOAA Technical Memorandum NWS NHC-6, updated with actual experience through 2019

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

Calculation of TWIA Earned Premium at Present Rate Level
 Tier 1 -- Territory 8 (Galveston County)

| Year | TWIA Earned Premium | Factor to Current Rate Level | Earned Premium at Current Rate Level |
|--------------|------------------------|------------------------------------|--|
| (1) | (2) | (3) | (4) |
| 2010 | 88,599,807 | 1.407 | 124,702,532 |
| 2011 | 92,287,441 | 1.373 | 126,684,509 |
| 2012 | 98,605,959 | 1.307 | 128,914,788 |
| 2013 | 105,941,027 | 1.245 | 131,926,783 |
| 2014 | 113,521,698 | 1.186 | 134,663,386 |
| 2015 | 121,221,015 | 1.130 | 136,975,647 |
| 2016 | 123,942,872 | 1.077 | 133,431,908 |
| 2017 | 120,650,271 | 1.050 | 126,682,785 |
| 2018 | 112,717,188 | 1.026 | 115,596,430 |
| 2019 | 109,182,096 | 1.000 | 109,182,096 |
| Total | 1,086,669,374 | | 1,268,760,864 |

Notes:

- (2) Provided by TDI
- (3) Provided by TWIA
- (4) = (2) * (3)

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

Calculation of TWIA Earned Premium at Present Rate Level
 Tier 1 -- Territory 9 (Nueces County)

| Year | TWIA Earned Premium | Factor to Current Rate Level | Earned Premium at Current Rate Level |
|--------------|------------------------|------------------------------------|--|
| (1) | (2) | (3) | (4) |
| 2010 | 49,048,919 | 1.407 | 69,035,414 |
| 2011 | 50,547,302 | 1.373 | 69,387,124 |
| 2012 | 53,841,760 | 1.307 | 70,391,274 |
| 2013 | 57,427,564 | 1.245 | 71,513,690 |
| 2014 | 62,828,148 | 1.186 | 74,528,934 |
| 2015 | 68,716,114 | 1.130 | 77,646,885 |
| 2016 | 71,234,774 | 1.077 | 76,688,491 |
| 2017 | 69,126,281 | 1.050 | 72,582,595 |
| 2018 | 63,899,693 | 1.026 | 65,531,943 |
| 2019 | 59,870,593 | 1.000 | 59,870,593 |
| Total | 606,541,148 | | 707,176,943 |

Notes:

- (2) Provided by TDI
- (3) Provided by TWIA
- (4) = (2) * (3)

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

Calculation of TWIA Earned Premium at Present Rate Level
Tier 1 -- Territory 10 (Other Tier 1)

| Year | TWIA Earned Premium | Factor to Current Rate Level | Earned Premium at Current Rate Level |
|--------------|------------------------|------------------------------------|--|
| (1) | (2) | (3) | (4) |
| 2010 | 131,679,293 | 1.407 | 185,336,084 |
| 2011 | 140,621,661 | 1.373 | 193,033,699 |
| 2012 | 160,031,435 | 1.307 | 209,220,809 |
| 2013 | 173,209,952 | 1.245 | 215,695,773 |
| 2014 | 187,152,484 | 1.186 | 222,006,785 |
| 2015 | 200,595,693 | 1.130 | 226,666,349 |
| 2016 | 200,978,477 | 1.077 | 216,365,340 |
| 2017 | 188,554,673 | 1.050 | 197,982,407 |
| 2018 | 166,829,909 | 1.026 | 171,091,403 |
| 2019 | 151,980,115 | 1.000 | 151,980,115 |
| Total | 1,701,633,692 | | 1,989,378,764 |

Notes:

- (2) Provided by TDI
- (3) Provided by TWIA
- (4) = (2) * (3)

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

Calculation of TWIA Earned Premium at Present Rate Level
Tier 2 -- (Territories 1 and 11)

| Year | TWIA Earned Premium | Factor to Current Rate Level | Earned Premium at Current Rate Level |
|--------------|------------------------|------------------------------------|--|
| (1) | (2) | (3) | (4) |
| 2010 | 2,562,327 | 1.407 | 3,606,426 |
| 2011 | 2,825,372 | 1.373 | 3,878,435 |
| 2012 | 3,294,072 | 1.307 | 4,306,581 |
| 2013 | 3,672,814 | 1.245 | 4,573,701 |
| 2014 | 3,920,276 | 1.186 | 4,650,368 |
| 2015 | 4,202,726 | 1.130 | 4,748,938 |
| 2016 | 4,436,708 | 1.077 | 4,776,381 |
| 2017 | 4,435,808 | 1.050 | 4,657,598 |
| 2018 | 4,301,050 | 1.026 | 4,410,916 |
| 2019 | 4,296,061 | 1.000 | 4,296,061 |
| Total | 37,947,214 | | 43,905,405 |

Notes:

- (2) Provided by TDI
- (3) Provided by TWIA
- (4) = (2) * (3)

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

Calculation of TWIA Earned Premium at Present Rate Level

| Year | Earned Premium at Manual Rates | Factor to Current Rate Level | Earned Premium at Current Rate Level |
|-------|--------------------------------------|------------------------------------|--|
| (1) | (2) | (3) | (4) |
| 2010 | 273,154,916 | 1.407 | 384,460,314 |
| 2011 | 292,239,327 | 1.373 | 401,161,797 |
| 2012 | 323,323,869 | 1.307 | 422,704,960 |
| 2013 | 346,955,938 | 1.245 | 432,059,062 |
| 2014 | 372,022,089 | 1.186 | 441,305,539 |
| 2015 | 403,803,905 | 1.130 | 456,284,757 |
| 2016 | 405,934,590 | 1.077 | 437,012,842 |
| 2017 | 376,421,384 | 1.050 | 395,242,454 |
| 2018 | 341,468,875 | 1.026 | 350,191,338 |
| 2019 | 322,259,386 | 1.000 | 322,259,386 |
| Total | 3,457,584,279 | | 4,042,682,448 |

Notes:

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

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

Fixed Expenses and Variable Permissible Loss & LAE Ratios

| Expense Category | 2017 | 2018 | 2019 | Selected |
|---|---------------|---------------|---------------|----------|
| (1) Direct Written Premium | \$423,074,138 | \$395,551,679 | \$372,016,601 | |
| (2) Direct Earned Premium | 451,347,130 | 409,954,258 | 381,571,182 | |
| (3) Commission | | | | |
| \$ Amount | 67,661,211 | 63,280,811 | 59,474,929 | |
| % of DWP | 16.0% | 16.0% | 16.0% | 16.0% |
| (4) Other Acquisition | | | | |
| \$ Amount | \$0 | \$0 | \$0 | |
| % of DWP | 0.0% | 0.0% | 0.0% | 0.0% |
| (5) General Expense | | | | |
| Unadjusted \$ Amount | \$26,489,941 | \$30,756,501 | \$31,461,936 | |
| % of DWP | 6.3% | 7.8% | 8.5% | 8.5% |
| (6) Taxes, Licenses & Fees | | | | |
| \$ Amount | \$0 | \$0 | \$0 | |
| % of DWP | 0.0% | 0.0% | 0.0% | 1.9% |
| (7) Reinsurance Expense | | | | 13.1% |
| (8) Outstanding Class 1 Public Security Repayment | | | | 17.9% |
| (9) Total Fixed Expenses | | | | 39.5% |
| (10) Total Variable Expenses | | | | 17.9% |
| (11) Underwriting Contingency & Uncertainty Provision | | | | 5.0% |
| (12) Permissible Loss & LAE Ratio | | | | 77.1% |

Notes:

- (1) - (6) From TWIA's Statutory Annual Statements and Insurance Expense Exhibits
- (7) Exhibit 11, Sheet 2
- (8) Outstanding Class 1 Public Security issued in 2014, Security depleted due to Hurricane Harvey;
0.179= Annual principal and interest payment of \$68.9M / Earned premium at present rate of \$384.7M
- (9) = (5) + (7) + (8)
- (10) = (3) + (4) + (6)
- (11) Underwriting Contingency & Uncertainty Provision selected judgmentally
- (12) = 100% - (10) - (11)

Residential Property - Wind & Hail

Rate Level Review

Development of Reinsurer Expense

Using Weighting of 50% AIR and 50% RMS Hurricane Models

| | Net of Depop |
|--|--------------|
| (1) 2021 - 2022 Expected Reinsurance Premium | 58,520,000 |
| (2a) Expected Average Annual Loss by Reinsurance Layer (AIR) 100% of \$1415M xs \$2100M | 17,833,889 |
| Total | 17,833,889 |
| (2b) Expected Average Annual Loss by Reinsurance Layer (RMS) 100% of \$1415M xs \$2100M | 9,850,854 |
| Total | 9,850,854 |
| (2c) Selected Total Average Annual Loss | 13,842,372 |
| (2d) Selected Total Average Annual Loss+LAE | 16,223,259 |
| (3) Expected Net Cost of Reinsurance | 42,296,741 |
| (4) TWIA 2019 Earned Premium at Present Rates | 322,259,386 |
| (5) Indicated Reinsurance Expense % | 13.1% |

Notes:

- (1) Developed by Willis Towers Watson for prospective reinsurance contract effective 6/1/2021 through 5/31/2022, but doesn't consider impact of reinsurance market conditions.
- (2a) Developed by Willis Towers Watson, based on AIR model using TWIA exposures as of 11/30/2019
- (2b) Developed by Willis Towers Watson, based on RMS model using TWIA exposures as of 11/30/2019
- (2c) Selected based on a 50% RMS/50% AIR weighting
- (2d) = (2c) * 1.172; 1.172 is the selected loading for loss adjustment expenses
- (3) = (1) - (2d)
- (4) = Exhibit 10, Sheet 2, calendar year ending 12/31/2019
- (5) = (3) / (4)

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

Exhibit 12

| Calendar Year | TWIA Provided Written Premium | | | Annual Statement Gross | |
|---------------|-------------------------------|----------------------|----------------------|------------------------|------------------|
| | Commercial | Residential | Total | Written Premium | Difference |
| (1) | (2) | (3) | (4) | (5) | (6) |
| 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 | 98,036,118 | 232,925,990 | 330,962,108 | 331,057,645 | (95,537) |
| 2009 | 111,269,573 | 269,535,059 | 380,804,632 | 382,342,402 | (1,537,770) |
| 2010 | 102,174,680 | 278,116,922 | 380,291,602 | 385,549,582 | (5,257,980) |
| 2011 | 100,017,021 | 307,494,236 | 407,511,257 | 403,748,164 | 3,763,093 |
| 2012 | 110,524,397 | 335,795,725 | 446,320,122 | 443,479,701 | 2,840,421 |
| 2013 | 112,904,624 | 360,838,081 | 473,742,705 | 472,739,474 | 1,003,231 |
| 2014 | 104,642,688 | 389,333,918 | 493,976,606 | 494,036,010 | (59,404) |
| 2015 | 98,715,934 | 407,969,846 | 506,685,780 | 503,824,316 | 2,861,464 |
| 2016 | 88,278,690 | 399,074,847 | 487,353,537 | 487,353,537 | - |
| 2017 | 70,749,081 | 352,368,052 | 423,117,133 | 423,074,138 | 42,995 |
| 2018 | 65,696,833 | 331,676,957 | 397,373,790 | 395,551,679 | 1,822,111 |
| 2019 | 59,123,729 | 314,907,159 | 374,030,888 | 372,016,601 | 2,014,287 |
| Total | 1,543,789,143 | 4,750,605,895 | 6,294,395,038 | 6,290,888,944 | 3,506,094 |

Notes:

- (2), (3) Provided by TWIA, as of 12/31/2019
- (4) = (2) + (3)
- (5) Based on TWIA Annual Statements
- (6) = (4) - (5)