**SUBCHAPTER E. TEXAS WINDSTORM INSURANCE ASSOCIATION**
**DIVISION 1. PLAN OF OPERATION**
**28 TAC §5.4023 and §§5.4029 - 5.4041**
**DIVISION 2. REINSURANCE**
**28 TAC §5.4016**

**INTRODUCTION.** The Texas Department of Insurance proposes new 28 TAC §5.4023 and §§5.4029 - 5.4041, relating to the Texas Windstorm Insurance Association (association). The proposed rules implement Insurance Code §2210.578, enacted under HB 3, 82nd Legislature, 1st Called Session (2011). The proposed rules prescribe claim settlement guidelines that the association must use in settling certain claims. The guidelines are based on the recommendations of a panel of experts, appointed under Insurance Code §2210.578 and charged with developing methods or models for determining the extent to which a loss may be or was incurred as a result of wind, waves, tidal surges, or rising waters not caused by waves or surges.

In addition, to allow room for the new proposed sections in 28 TAC Chapter 5, Division 1, the department also proposes repealing 28 TAC Chapter 5, Division 2, which contains §5.4016. The text of §5.4016 is proposed as new §5.4023, with changes conforming it to current department style and revisions of the Insurance Code enacted after §5.4016 was adopted.

To give the association time to research and comment on the costs of implementing the proposed rules, the department is providing an extended comment period for this proposal, and public comments will be accepted until October 31, 2016.

**EXPLANATION.** The association is the residual insurer of last resort for windstorm and hail insurance coverage in the seacoast territory for those who are unable to obtain wind and hail insurance in the private market. The commissioner of insurance designates the catastrophe area eligible for coverage through the association under Insurance Code §2210.005, and it currently includes the 14 first-tier coastal counties and parts of Harris County. The association is similar to other insurers in that it sells policies, collects premiums, and pays claims. The association's largest risk exposure is to catastrophic losses from hurricanes.

Insurance Code §2210.578 requires the commissioner to appoint a panel of experts to advise the association on the extent to which a loss to insurable property was incurred as a result of wind, waves, tidal surges, or rising waters not caused by waves or surges. Because association policies cover

direct physical loss caused by wind and exclude loss caused by rising water in its various forms, the distinction is important for determining the association's liability for a claim. Members of the panel must recommend to the commissioner methods or models for determining the extent to which a loss may be or was incurred as a result of wind, waves, tidal surges, or rising waters not caused by waves or surges for geographic areas or regions designated by the commissioner. After considering the panel's recommendations, the commissioner must publish guidelines that the association must use to settle claims.

The commissioner appointed a panel of experts who, as §2210.578(b) requires, have professional expertise in and are knowledgeable concerning the geography and meteorology of the Texas seacoast territory, as well as the scientific basis for determining the extent to which damage to property is caused by wind, waves, tidal surges, or rising waters not caused by waves or surges. The panel consists of five members, all appointed in August 2013. The members are:

--Exponent, Inc., an engineering consulting firm, represented by James R. "Bob" Bailey, Ph.D., P.E., F. ASCE;

--Texas Tech University, represented by Douglas A. Smith, Ph.D., P.E., F. SEI, F. ASCE;

--Forte & Tablada, Inc., an engineering consulting firm, represented by Samuel Amoroso, Ph.D., P.E., S.E., M. ASCE;

--William "Bill" Coulbourne, P.E., M. ASCE; and

--Andrew Kennedy, Ph.D., M. ASCE.

Members of the panel have published peer-reviewed papers on topics in wind engineering, and wave and surge measurement and prediction; written articles for the American Society of Civil Engineers (ASCE) Press; and served on the ASCE Wind Load Task committee and the ASCE Flood Resistant Design and Construction committee, which develop engineering standards. All panel members have worked on the Texas coast, whether investigating storm damage, conducting vulnerability assessments, or measuring waves and storm surge. Panel member biographies are at tdi.texas.gov/webcast/documents/twiapanelbios.pdf. Panel member curricula vitae are in Appendix B of the expert panel's final report at tdi.texas.gov/reports/pc/documents/epfinalrpt.pdf.

The panel developed a methodology and the steps necessary to implement the methodology, submitted the methodology for peer review, and adjusted the methodology based on the peer review. The panel also held nine public meetings in Austin and Corpus Christi to update the public on its

progress. The expert panel submitted its final report on April 18, 2016. Audio and slides from the public meetings are at tdi.texas.gov/commercial/pctwia.html#expert. The panel's final report, containing its recommended methodology, is on the department's website at tdi.texas.gov/reports/pc/documents/epfinalrpt.pdf.

The panel recommended that its methodology be applied only to residential slab claims in which nothing but the foundation or a portion of the foundation of a residential structure remains after a storm. When all or a sufficient part of the structure above the foundation remains, the panel expects that an adjuster or engineer can find enough evidence to attribute damage to either wind or water with greater accuracy than the panel's methodology would provide.

The panel's recommended methodology would estimate the percentage of damage each component of a structure sustained due to wind before the structure was likely destroyed by waves or surges. These estimations are probabilistic; they represent the average damage expected for a given structure and do not necessarily reflect what happened to the structure. However, the methodology would require that the percentage of damage estimates be checked against observations.

The panel's recommended methodology contains five components, or modules: the property database, the hazard module, the damage estimation module, the economic loss module, and the report generation module.

***Property Database***

The property database would consist of information on certain characteristics of each association-insured structure to which the methodology might be applied. For example, this information includes the age of the structure, the type of roof covering, and the height of the structure's lowest horizontal structural member. The property database would also include high-resolution aerial and ground photographs of each structure, providing further information on characteristics of the structure.

Information from the database, along with data on a particular storm from the hazard module, would be used in the damage estimation module to calculate the probable extent of wind damage to a given structure. High-resolution aerial photographs also provide information on the terrain surrounding a structure, which is key to assessing its wind exposure. The damage estimation module assumes the worst exposure category in all wind directions for a structure. As an enhancement to the proposed

methodology, the expert panel recommends the association consider determining the structure's wind exposure for eight direction sectors for input into the damage estimation module.

The proposed rules state that the association may input wind exposure for eight direction sectors into the damage estimation module. The association would need to populate the property database in advance of a storm and keep it up to date. The proposed rules adopt the expert panel's recommendations for the property database.

***Hazard Module***

The hazard module would provide data on wind, waves, and storm surges to which a given structure was exposed for the duration of a storm. To calculate the probable extent of wind damage to a given structure, the damage estimation module would use:

--wind speed and direction time histories

--wave and surge time histories, and

--information from the property database.

Because taking measurements at every structure would be cost prohibitive or technically infeasible, the hazard module requires taking sufficiently detailed measurements during a storm to enable the use of models to project site-specific data.

In developing the hazard module, the expert panel investigated existing systems for modeling wind fields during a storm. For the purpose of the recommended methodology, a wind field model or models must provide site-specific wind speed and direction time histories and provide a wind field that can be used in a wave and surge model to generate site-specific wave and surge time histories. The wave and surge model requires input from the wind field model so that the histories from each model will be spatially and temporally correlated. The recommended methodology also requires that wind field models have a minimum amount of error at each specific site, where error is defined as the difference between model estimates and the observed wind speeds and directions measured during a storm.

The expert panel investigated three classes of wind field models by comparing each model's output wind speeds, predicted with data from Hurricane Ike, with observed wind speeds from Hurricane Ike. The expert panel recommended that an observational model or models be used in the hazard module to generate wind speed and direction time histories and wave and surge time histories. The proposed rules require that the association use one or more observational models for this purpose. The

proposed rules also require the association to gather the data to be used in the model or models as the expert panel recommended.

As discussed above, the expert panel recommended inputting the wind field model into the wave and surge model. In addition, the wave and surge model requires measurements of waves and water levels during a storm and measurements of high-water marks taken after the storm. The wave and surge model uses these inputs to generate wave and surge time histories at a given structure. The expert panel recommended that the association contract with firms or government agencies to gather data during and after a storm and to develop a wave and surge model. The proposed rules require that the wave and surge model contain the technical features the expert panel recommended and require the association to obtain the recommended data.

***Damage Estimation Module***

The damage estimation module would use wind speed and direction time histories and wave and surge time histories, along with information on the characteristics of a given structure. These inputs would be used to estimate the percentage of each component in the structure damaged by wind before the point in time at which waves or surges likely destroyed the structure. The expert panel recommended that these percentages, after having been validated with post-storm observations, be used to compute the total loss due to wind that occurred during a storm. The proposed rules require that the association use the damage estimation module, defined as Section 6 and Appendix A of the expert panel's report and incorporated into the rules by reference.

The damage estimation module requires two independent determinations of probability: the probability that waves or surges destroyed the structure and the probability that wind destroyed it. For both hazards, the probability will vary throughout the time history.

The expert panel recommended that the association determine the probability that waves or surges destroyed a structure using an engineering methodology introduced in a paper in the *Journal of Waterway, Port, Coastal, and Ocean Engineering*, a peer-reviewed journal published by the ASCE. The proposed rules cite Tomiczek, T., Kennedy, A., and Rogers, S. (2014), *Collapse Limit State Fragilities of Wood-Framed Residences From Storm Surge and Waves During Hurricane Ike*, J. Waterway, Port, Coastal, and Ocean Eng. ASCE, 140(1), 43-55, *available at* dx.doi: 10.1061/(ASCE)WW.1943-5460.0000212. The paper is available through the association at compliance@twia.org.

The probability that wind destroyed a structure would be determined from the maximum of the probabilities of failure for three key components of the structure. The expert panel investigated different techniques for estimating component failure probabilities, including the First-Order, Second-Moment, Mean Value (FOSM-MV) reliability analysis; the Rackwitz-Fiessler procedure; and the Monte Carlo simulation. The panel chose to use the FOSM-MV reliability analysis to demonstrate the calculation of failure probabilities in its report, but all three techniques can be used effectively in the damage estimation module. Appendix C of the expert panel's report discusses the strengths and weaknesses of the different techniques.

In the damage estimation module, the independent probabilities of destruction by waves and surges and destruction by wind are used in an equation with the percentage of a given component that was damaged by wind before the structure was likely destroyed by waves or surges. The equation creates a probability-weighted average of the expected wind damage to the component before waves and surges likely destroyed the structure, and the damage that would have occurred if wind destroyed the structure. The equation is calculated for every component. Pages 6-3 and 6-4 of the expert panel's report show examples of how the equation would function with different damage levels and collapse probabilities.

The damage estimation module uses the probability that a component of a structure will fail as a proxy for the expected amount of damage to the component. This is because damage is estimated probabilistically as the average damage expected for a structure with given characteristics. The average damage expected can be used when there are a large number of properties being considered. From Page 6-8 of the expert panel's report:

> "As an example, consider roof panel damage in one corner zone of a roof. Only one piece of plywood may occupy this location due to the relative sizes of plywood sheets and of roof corner zones for typical residences. For a single property, only two outcomes are possible: damage or no damage. If the Damage Estimation Module estimates that the probability of damage to the roof decking in this location is 10 percent, then it is reasonable to conclude that a single property would not experience damage to roof decking in this roof area. However, if 100 properties are under consideration, and the Damage Estimation Module estimates that the probability of damage to the roof decking in this location is 9 percent, then it is reasonable to

conclude that 9 of 100 properties experience damage to roof decking in this area, and the average damage rate for these 100 properties is 9 percent. That is, 9 of 100 properties would experience total damage, and the other 91 would experience no damage.

"This example demonstrates a fundamental characteristic of the Damage Estimation Module: the most likely result and the average result are not the same. The Damage Estimation Module produces the average result, and because of this characteristic, the assumption that probability of failure can be considered as a proxy for damage rate is acceptable. The total damage ratio for a component over the entire building is the sum of the areas, weighted by their individual failure probabilities.

"For illustration, consider the following simple hypothetical scenario. One portion of a building roof covers 10 percent of the roof area, and the probability of failure for this area of roof is 50 percent. If the probabilities of failure in all the other portions of the roof are zero, then the total damage ratio for the roof is five percent."

In addition to the probabilistic approach, the damage estimation module contains an observational approach (not to be confused with the observational models developed as part of the hazard module). The proposed rules require the association to use this observational approach, the purpose of which is to check the results from the probabilistic approach. The proposed rules give the association discretion to use certain observations.

***Economic Loss Module***

The economic loss module contains the expert panel's recommendation that adjusters use the component damage estimates from the damage estimation module to determine the scope of work and associated costs for each component. The panel's expertise covers damage to structures, not to contents. Therefore, the panel also recommended that adjusters or other professionals estimate losses to contents. The proposed rules implement these recommendations.

***Report Generation Module***

The report generation module requires:

--pre-storm and post-storm site-specific information

--wind and wave and surge hazard information and building vulnerability, and

--damage information (the results of the damage estimation module).

The association would combine this information in a report sent to the policyholder. The policyholder can then supplement any building, damage, or hazard magnitude information used as inputs to the model.

Insurance Code §2210.573(b) allows the association to ask a claimant for additional information not later than the 30th day after the claim is filed. Proposed §5.4040(a) uses the same time frame to require the association to ask the policyholder for information that may be used to verify or correct model inputs, thus tying the two actions to the same deadline.

Insurance Code §2210.573(d) requires the association to accept or deny a claim not later than the 60th day after the claim is filed. Proposed §5.4040(b) requires the association at the same time to provide the policyholder with a complete residential slab claim report and a summary of the results, again tying a new requirement to an existing deadline.

The expert panel's report recommends that the association give the residential slab claim report to the policyholder after running the model. The rule departs from this timing so that the communications between the policyholder and the association can be combined with the claim-processing correspondence in Insurance Code §2210.573. Incorporating the new requirements into the claim-settling process is less burdensome for the association and policyholders than creating a new set of deadlines.

***Validation of Recommended Methodology***

The expert panel validated its recommended methodology by using the damage estimation module to predict damage for past hurricanes using data from those hurricanes, and then comparing the predictions with residential claims resulting from the hurricanes. The panel compared predictions for Hurricanes Charley (2004), Ivan (2004), Katrina (2005), Rita (2005), and Ike (2008) with residential windstorm claims drawn from insurer bulk claims data, individual claim reports, open literature, and existing catastrophe loss models.

Qualitative analysis confirmed the damage estimation module is reasonable in terms of overall approach, with its predictions comparing favorably with qualitative observations from post-storm damage photographs. Quantitative analysis showed that the module's predictions generally compared

favorably with data interpreted from claim files, with the module providing reasonable estimates of the magnitudes and trends of damage when compared to observations of actual damage. Detailed discussion of the validation, including data and limitations, is in the expert panel's report at tdi.texas.gov/reports/pc/documents/epfinalrpt.pdf. The panel recommends continual validation of the recommended methodology by a performance review after each time it is used.

The damage estimation module was also reviewed (independently of the expert panel) by employees of Exponent, Inc., which is an ISO 9001-certified firm, to verify the reliability of the calculations underlying the module's predictions, which were based on the FOSM-MV reliability analysis.

***Peer Review of Recommended Methodology***

The department contracted with five reviewers from industry and academia to each conduct an independent peer review of the expert panel's report. Each reviewer looked for compliance with accepted standards of professional and technical practices, and each provided a final report of his findings to the department. The expert panel reviewed each peer-review report and, where necessary, modified its final report on the basis of the peer review suggestions or comments.

The most significant modification the panel made in response to peer-review comments was to change the equation used to calculate the percentage of damage each component sustained. The panel made the change to take into account situations in which the probability of both destruction due to wave and surge and destruction due to wind was low. Also, in response to peer reviewer comments, the expert panel added a sensitivity analysis of failure probability calculation techniques, comparing roof cover damage results obtained using the FOSM-MV technique with results obtained using the Monte Carlo simulation for different wind speeds and structure characteristics. The panel concluded that the limitations of the FOSM-MV, which a reviewer had also mentioned, have "little practical significance for the methodology as currently proposed." The sensitivity analysis is in Appendix C of the expert panel's report.

The panel's final report, containing its recommended methodology, is on the department's website at tdi.texas.gov/reports/pc/documents/epfinalrpt.pdf. The peer reviews are also on the department's website at tdi.texas.gov/commercial/pctwia.html#expert.

**Section by Section Summary**

**Section 5.4023.** Section 5.4023, relating to reinsurance, consists of rule text currently in 28 TAC §5.4016, which is proposed for repeal in this proposal. Proposed §5.4023 will be included in the association plan of operation, required by Insurance Code §2210.152(a)(2)(C). The proposed text in §5.4023 is substantially the same as the text in current §5.4016. Nonsubstantive changes update Insurance Code citations to reflect the recodification of the Insurance Code and update the text for consistency with current department rule drafting style. The single substantive change from the current text is the removal of a requirement for notice and hearing before the commissioner issues an order approving or disapproving an excess reinsurer or the amount of payment for the excess reinsurance. This change to the current text, in proposed §5.4023(d)(2) and (g)(2), reflects that notice and a hearing are no longer required before the commissioner issues an order under Insurance Code §2210.008, which is the recodification of 2005 Texas Insurance Code Article 21.49 §5A. In HB 4409, 81st Legislature, Regular Session, 2009, the legislature removed the notice and hearing requirement from §2210.008. This change to the current text reflects that statutory change.

**Section 5.4029. Applicability.** Section 5.4029 identifies the geographic areas where the claim settlement guidelines will apply and how the association will determine if a storm is an "applicable storm" requiring it to use the guidelines. Proposed §5.4029(b) requires the association to use the rules to settle residential slab claims resulting from an organized weather system that:

(1) has a defined surface circulation and maximum sustained winds of not less than 39 miles per hour;

(2) the National Hurricane Center of the United States National Weather Service names as a tropical storm or a hurricane; and

(3) the association expects will result in more than 500 residential slab claims.

Paragraphs (1) and (2) in proposed §5.4029(b) constitute the definition of "named storm" in the National Flood Insurance Act. Under proposed §5.4029(c), the association must make the initial determination of the number of anticipated residential slab claims when the organized weather system is in the Gulf of Mexico or within the boundaries of longitude 80 degrees west and latitude 20 degrees north, and a final determination no later than 24 hours before expected landfall. While a longer period

between the final determination and expected landfall would allow more time to deploy instruments, tropical storms and hurricanes can intensify, dissipate, or shift direction rapidly. A final determination at 24 hours before expected landfall allows greater accuracy as to the anticipated number of residential slab claims.

The proposed rules require the association to use the wind damage evaluation based on the anticipated number of residential slab claims, regardless of the actual number the association ultimately receives. The association will not know the final, actual, number of residential slab claims until after a storm. While the vast majority of residential slab claims would likely be made shortly after the storm, policyholders have until the first anniversary of the date of loss to file claims. Requiring the wind damage evaluation based on the anticipated number of residential slab claims provides clear guidance immediately after a storm as to what claim-settling procedures the association must use.

Proposed §5.4029(e) recognizes that the association may contract with appropriate private or governmental entities to obtain any of the data or services required in this division.

**Section 5.4030. Definitions Applicable to §§5.4029 - 5.4041.** Section 5.4030 defines the terms "applicable storm," "catastrophe area," "damage estimation module," "expert panel," "hazard module," and "residential slab claim."

**Section 5.4031. Wind Damage Evaluation.** Section 5.4031 requires the association to develop a comprehensive wind damage evaluation system that uses both an observational approach and a probabilistic methodology, as recommended by the expert panel, to determine residential slab claim wind damage. The system includes a property database, and modules for hazards, damage estimation, economic loss, and report generation.

**Section 5.4032. Property Database.** Section 5.4032 requires the association to gather and regularly update specific information about storm-related building features for each property in the geographic area described in §5.4029(a). Section 5.4032 also requires the association to gather high-resolution aerial and ground photographs of each property in the area to be used after an applicable storm.

**Section 5.4033. Hazard Module.** Section 5.4033 describes the overarching goal of the hazard module: to obtain synchronous, site-specific wind speed and direction time histories along with storm surge and wave time histories. Reaching this goal requires one or more wind field models and a storm surge and wave model. The association must also develop plans and capabilities to obtain good quality wave, surge, and wind field data and, to the extent possible, to do so working in concert with federal agencies and other organizations.

**Section 5.4034. Hazard Module - Wind Measurements.** To ensure pre-event wind measurements are sufficient, §5.4034(a) requires the association to ensure the placement of measurement platforms before an applicable storm reaches a catastrophe area. The measurements must be capable of generating gust wind speed and direction time histories during an applicable storm. Section 5.4034(b)-(e) lists the expert panel's recommendations for deploying measurement devices.

**Section 5.4035. Hazard Module - Wind Field Model.** Section 5.4035 mandates that the association develop one or more observational models for constructing a wind field following specific model requirements from the expert panel's report. Under §5.4035(c), the association must take steps to minimize errors between model estimates and observed wind speeds and directions.

**Section 5.4036. Hazard Module - Storm Surge and Wave Measurements.** Section 5.4036 requires the association to obtain physical measurements of surge, waves, and high-water marks during and after an applicable storm. The section requires the association to take the appropriate steps to obtain the measurements before each hurricane season.

**Section 5.4037. Hazard Module - Storm Surge and Wave Model.** Section 5.4037 lists the expert panel's recommended specifications for a storm surge and wave model. The section requires the association, before an applicable storm, to take steps to obtain rapid, post-event high-resolution surge and wave modeling.

**Section 5.4038. Use of Damage Estimation Module.** Section 5.4038 describes how the association must use the damage estimation module that the expert panel recommended to determine

the total damage to a structure attributable to wind. The section describes the required inputs to the module and lists the estimations the association must make using the calculations in Section 6 and Appendix A of the expert panel's report. Section 5.4041 incorporates Section 6 and Appendix A by reference. Because the damage estimation module consists of both a probabilistic approach and an observational approach, this section also gives the association discretion as to which of the listed observations it will use as part of the observational approach.

Finally, §5.4038 lists two actions that, according to the expert panel's recommendations, could improve the damage estimation module but are not necessary for it to work. Therefore, §5.4038(d) states that the association may input representations of the wind exposure category applicable to the structure from each of the eight different directions surrounding the structure. Similarly, §5.4038(e) states that the association may also incorporate other methods for computing probabilities of component and system failure other than the method used in the damage estimation module.

**Section 5.4039. Economic Loss Determination.** Section 5.4039 implements a recommendation from the expert panel report that the association develop an economic loss module that translates physical damage estimates into monetary losses. Section 5.4039(b) requires the association to use wind damage estimates obtained through the damage estimation module to determine the appropriate scope of work and associated costs for each component likely damaged by wind. Section 5.4039(c) states that to make estimates concerning contents, adjusters must use their own knowledge and experience, as well as any information about the particular property in the association's files, from the policyholder, and other sources.

**Section 5.4040. Report Generation Module.** Section 5.4040 requires the association to send the policyholder a request for information that may be used to update the association's property database before the wind damage evaluation method is used. The request for information must also give the policyholder an opportunity to provide any information on wind speed and direction, and surge and waves at the policyholder's structure during the applicable storm and any information on damage to the structure. The association must also make claim settlement reports generated by the wind damage evaluation method available to insureds within specified time periods.

**Section 5.4041. Incorporation by Reference.** Section 5.4041 incorporates the damage estimation module, found in the expert panel's report and available at tdi.texas.gov/reports/pc/documents/epfinalrpt.pdf, by reference into the proposed rules.

**Repeal of Section 5.4016.** Insurance Code §2210.152(a)(2)(C) requires the association to include in the plan of operation procedures for accepting and ceding reinsurance. Insurance Code §2210.152(c), enacted by HB 3, requires TWIA to use the claim settlement guidelines published by the commissioner under Section 2210.578(f) as part of the association's plan of operation. Division 2, Reinsurance, consists of §5.4016. Repealing the division and §5.4016 allows the department to include proposed §5.4023 in Division 1. The repeal also permits placement of additional rules relating to the association's plan of operation in the division, including the proposed claim settlement guidelines, §§5.4029-5.4041.

**FISCAL NOTE AND LOCAL EMPLOYMENTS IMPACT STATEMENT.** Marianne Baker, manager, Property and Casualty Lines Office, has determined that for each year of the first five years the proposed amended and new sections will be in effect, there will be minimal fiscal impact to state and local governments as a result of enforcement or administration of this proposal. Ms. Baker does not anticipate any measurable effect on local employment or the local economy as a result of enforcement or administration of this proposal. Some local governments are association policyholders. A local government would experience a positive economic effect if the guidelines established by the rule facilitate the settlement of residential slab claims under the association's windstorm and hail insurance policies.

**PUBLIC BENEFIT AND COST NOTE.** Ms. Baker has also determined that for each year of the first five years the proposed sections are in effect, there will be public benefits resulting from the proposal and costs to the association, which is required to comply with the proposal.

*A. Anticipated Public Benefits.*

The department anticipates that a primary public benefit resulting from the proposal will be the implementation of Insurance Code §2210.578. The association, its policyholders, and members will benefit because residential slab claims will be determined more consistently on a claim-by-claim basis,

and policyholders will be informed of the manner in which slab claims will be adjusted. Administering and enforcing the proposed rules will have the public benefit of increasing public understanding of how residential slab claims will be adjusted.

*B. Estimated Costs to Comply with This Proposal.*

The association will incur costs to comply with this proposal. Initial costs will be the costs of setting up the comprehensive wind damage evaluation system based on the expert panel's recommended methodology. Long-term costs will be incurred in post-event modeling, data collection, and operation of the system.

The department received cost information and estimates from the expert panel and from the association. The expert panel's methodology includes numerous complex and interrelated activities that are difficult to price without seeking bids. The estimates are based on the best information reasonably obtainable within the available time frame, but are nonetheless rough approximations. The actual costs for services and information will depend on how quickly they are needed and which provider the association works with. Costs related to a specific storm may vary significantly based on the magnitude and location of the storm, and the number of claims. Other factors include how the association chooses to acquire devices and any variation in the cost of instruments.

To give the association additional time to research and comment on the costs of implementing the proposed rules, the comment period for this proposal lasts from the date of publication in the *Texas Register* to October 31, 2016.

*(1) Obtaining pre-event high resolution aerial and ground photography*.

The association must acquire pre-event high resolution aerial photographs of potentially affected properties to define structure characteristics and terrain. The association currently has a provider of these services under contract. The association will also need pre-event ground level photographs and video synced to latitudinal and longitudinal coordinates. The expert panel estimates that this function will cost $200,000 per city. The association states the cost of obtaining and structuring all required data for property characteristics will be $100 per property, or a total of $3.5 million for 35,000 potential slab properties.

*(2) Collecting high-quality real-time storm surge and wave and wind field data.*

To collect wave and surge data, the association will need to purchase or rent dedicated collection instruments and deploy these instruments at locations prepared and surveyed for elevation well in advance of a storm. If the association decides to purchase the instruments, the purchase and deployment will be required one time; thereafter, some annual maintenance will be necessary. The expert panel estimates that the one-time purchase cost would be approximately $100,000; the association could possibly reduce this cost by purchasing large numbers of inexpensive instruments. The panel estimates that annual maintenance would be approximately $10,000 - $15,000. If the association decides to rent the instruments, the panel estimates that the cost would be approximately $50,000 per applicable storm.

Wind field data collection requires deploying mobile instruments to obtain wind speed and direction data to be provided to hurricane wind field modelers. Many state universities provide these services. The exact costs depend on the number of instrument platforms required, deployment costs, and the extent of the analysis to be performed by the hurricane wind field modeler. The expert panel estimates the instrument and platform construction costs would be approximately $12,000 per platform; the association will need 40 to 60 platforms, for a total cost of $480,000 - $720,000. The association estimates the cost would be $300,000 - $600,000.

*(3) Collecting high-quality post-event LIDAR imagery.*

The association will need to rapidly collect and process post-event light detection and ranging (LIDAR) imagery. There are many private sector and governmental providers that can perform these services. The expert panel estimates the annual cost of these services would be $50,000 - $100,000, plus a smaller annual maintenance and administration cost. The association estimates the cost would be $100 - $500 per square mile, or $36,700 - $183,500 for the entire Texas coast.

*(4) Modeling storm surge and wave and wind fields.*

Storm surge and wave modeling has three components:

(1) grid and model setup;

(2) annual maintenance and testing in concert with wind providers; and

(3) modeling in the event of a storm.

The grid and model setup requires preparing grids appropriate for the association, setting up and testing the model of the grids, and integrating the model with the association for data exchange. The expert panel estimates the cost of grid and model setup would be $75,000 - $100,000.

In the expert panel's estimation, the annual maintenance, testing, and upgrades to the model would cost approximately $25,000 - $50,000. The panel estimates that storm modeling, which requires rapid grid updates, multiple model runs over several months, transmission of results to the association, and validation of accuracy, would cost approximately $100,000 - $200,000 per event. The panel estimates that the total cost for surge and wave modeling would be $200,000 - $400,000.

The expert panel estimates that the cost of a synoptic wind field model required for surge and wave modeling would be approximately $50,000, and hurricane wind field modeling needed for wind damage prediction would cost approximately $18,000. The panel estimates that the total cost of wind field modeling would be approximately $68,000.

The expert panel estimates the total cost for both surge and wave and wind field modeling is approximately $268,000 - $468,000. The association estimates the cost for both would be $300,000 - $600,000.

*(5) Damage estimation module.*

The paper by Tomiczek, T., Kennedy, A., and Rogers, S., *Collapse Limit State Fragilities of Wood-Framed Residences From Storm Surge and Waves During Hurricane Ike*, Journal of Waterway, Port, Coastal, and Ocean Engineering (ASCE) (2014), 140(1), 43-55, *available at* dx.doi: 10.1061/(ASCE)WW.1943-5460.0000212, will cost between $30 and $1,000 for the association to access and make available to anyone. Each individual download of the paper from the ASCE library costs $30; unlimited downloads are available for $1,000. Therefore, the cost of this portion of the damage estimation module depends on how many requests for the paper the association receives.

Taking the data from the property database and hazard module and using it to calculate the probabilities of component damage and slabbing due to surge in the damage estimation module will involve software integration and application development. The expert panel estimates that the cost of the remainder of the damage estimation module would be approximately $500,000.

*(6) Report generation module.*

The association estimates that there will be costs associated with combining the information produced from the other modules into a readable and usable format. The association did not provide a specific estimate. The cost will depend on the number of slab claims, and thus the number of reports. In addition to the costs of paper and postage, approximately $1.00, the department estimates that the association will spend between 30 minutes and two hours preparing each report. Depending on the level of employee, the department estimates a cost between $15 and $50 per report. Costs will also depend on whether the software development completed for the damage estimation module makes the relevant data easily accessible for the report generation module as well.

*(7) Summary.*

The expert panel estimates that the initial implementation would cost the association approximately $925,000 - $1.34 million, with approximately $35,000 - $65,000 in annual costs, and approximately $150,000 - $250,000 in costs per storm. The initial costs would be lower if the association decides to rent instead of purchase wave and surge data collection instruments. The association estimates that the initial implementation would be $6 - $30 million.

**ECONOMIC IMPACT STATEMENT AND REGULATORY FLEXIBILITY ANALYSIS FOR SMALL AND MICRO BUSINESSES.** As required by Government Code §2006.002(c), the department has determined that neither the proposal nor the proposed repeal will have adverse economic effects on small or micro businesses because the proposed rules and repeal do not apply to any small or micro businesses. Instead, they relate to the association and residential homeowners covered under its windstorm and hail policies. Therefore, in accordance with Government Code §2006.002(c), the department has determined that a regulatory flexibility analysis is not required.

**TAKINGS IMPACT ASSESSMENT.** The department has determined that no private real property interests are affected by this proposal or proposed repeal and that they do not restrict or limit an owner's right to property that would otherwise exist in the absence of government action and, therefore, do not constitute a taking or require a takings impact assessment under Government Code §2007.043.

**REQUEST FOR PUBLIC COMMENT.** The department invites public comment on the proposal and proposed repeal. Submit your written comments no later than 5 p.m., Central time, on October 31, 2016. Send written comments by mail to the Office of the Chief Clerk, Mail Code 113-2A, Texas Department of Insurance, P.O. Box 149104, Austin, Texas 78714-9104; or by email to chiefclerk@tdi.texas.gov. You must submit an additional copy of the comments by mail to Marianne Baker, Property and Casualty Lines Office, 104-PC, Texas Department of Insurance, P.O. Box 149104, Austin, Texas 78714-9104; or by email to marianne.baker@tdi.texas.gov.

The commissioner will consider the repeal of Division 2 and §5.4016, and the adoption of new §5.4023, and §§5.4029 - 5.4041 in a public hearing under Docket Number 2789, scheduled for 9:30 a.m., Central time, on October 28, 2016, in Room 100 of the William P. Hobby, Jr. State Office Building, 333 Guadalupe Street, Austin, Texas. Written comments and public testimony presented at the hearing will be considered.

**STATUTORY AUTHORITY.** The department proposes new 28 TAC §5.4023 and §§5.4029 - 5.4041 under Insurance Code §§36.001, 2210.008(b), 2210.152, 2210.505(c), 2210.578, and 2210.580.

Section 36.001 provides that the commissioner may adopt any rules necessary and appropriate to implement the powers and duties of the department under the Insurance Code and other laws of the state.

Section 2210.008(b) authorizes the commissioner to adopt reasonable and necessary rules to implement Chapter 2210.

Section 2210.152(c) provides that the association's plan of operation must require it to use the claim settlement guidelines published by the commissioner under section 2210.578(f) in evaluating the extent to which a loss to insured property is incurred as a result of wind, waves, tidal surges, or rising waters not caused by waves or surges.

Section 2210.505(c) authorizes the commissioner to adopt rules as necessary to implement the section, relating to reinsured excess limits.

Section 2210.578(f) provides that after consideration of the recommendations made by the expert panel, the commissioner must publish guidelines that the association will use to settle claims.

Section 2210.580 authorizes the commissioner to adopt rules regarding the provisions of Subchapter L-1.

**CROSS-REFERENCE TO STATUTE.** The proposed sections implement Insurance Code §§2210.152, 2210.505, 2210.572 - 2210.575, and 2210.578.

**TEXT.**

**SUBCHAPTER E. TEXAS WINDSTORM INSURANCE ASSOCIATION**

**DIVISION 1. PLAN OF OPERATION**

**28 TAC §5.4023, and §§5.4029 - 5.4041**

**§5.4023. Per Risk Reinsured Excess Coverage**

(a) Purpose. Under Insurance Code §2210.505, the Texas Windstorm Insurance Association may issue a policy of windstorm and hail insurance that includes coverage for an amount in excess of the maximum limit of liability approved by the commissioner.

(b) Definitions. The following words and terms when used in this section have the following meanings unless the context clearly indicates otherwise.

(1) Available reinsurance capacity--Amount of reinsurance purchased by the association pursuant to the excess per risk reinsurance contract to provide reinsured excess coverage to association policyholders as provided in Texas Insurance Code §2210.505.

(2) Excess per risk reinsurance contract--An agreement entered into by the association with an approved reinsurer to provide coverage to association policyholders for an amount in excess of the liability limits approved by the commissioner.

(3) Reinsured excess coverage--Coverage provided under a windstorm and hail insurance policy issued by the association through a reinsurance agreement with an approved reinsurer for amounts of insurance that are in excess of the maximum limits of liability available to the individual risk from the association.

(4) Reinsured excess coverage program--The program operated by the association to provide reinsured excess coverage, the excess per risk reinsurance contract or contracts entered into between the association and the commissioner-approved reinsurer or reinsurers, this section, and any orders issued, including the collection of premium, issuance of coverage under the windstorm and hail insurance policy, and the processing and payment of claims for the reinsured excess coverage.

(c) Administration.

(1) The association must administer the reinsured excess coverage program on behalf of each policyholder of a windstorm and hail insurance policy to which reinsurance is provided by an approved reinsurer.

(2) The association must distribute the available reinsurance capacity for the reinsured excess coverage in a fair and reasonable manner to risks qualifying under the association's reinsured excess coverage program.

(3) The association must annually review the reinsured excess coverage program, including the rates, reinsurers, excess per risk reinsurance contracts, use of available reinsurance capacity, the association's costs to administer the reinsured excess coverage program, and the rules in this section, and must provide an annual summary of the review to the commissioner.

(d) Approval of reinsurer. Before the association may provide reinsurance coverage on an individual risk that is in excess of the maximum limits of liability approved by the commissioner, the association must first obtain from a reinsurer approved by the commissioner reinsurance for the full amount of policy exposure above the limits approved by the commissioner for any given type of risk. The approval of the reinsurer must be in accordance with this subsection.

(1) The association must submit a petition to the commissioner requesting approval of the reinsurer before any excess per risk reinsurance contract or renewal of such contract becomes effective. The petition must include the name of the proposed reinsurer or reinsurers; the reinsurance proposal; the draft excess per risk reinsurance contract; information on the financial health of the proposed reinsurer or reinsurers and any other information related to the reasons for the association's selection of reinsurer or reinsurers; estimated costs for the reinsurance; the proposed cost to the association to administer the reinsured excess coverage program; estimated total premium for the reinsurance; the method of making the reinsurance capacity available to policyholders; and any other information the association or the commissioner deems necessary to enable the commissioner to determine whether to approve or disapprove the proposed reinsurer or reinsurers.

(2) The commissioner must issue an order approving or disapproving the proposed reinsurer. The order must be issued no later than December 31 of each year preceding the calendar year in which the reinsured excess coverage program is operated except for the first year the program is operated when the order must be issued following the adoption of this section.

(3) An excess per risk reinsurance contract may not become effective until the commissioner has issued an order approving the reinsurer. The excess per risk reinsurance contract does not require approval by the commissioner.

(4) The association must submit written notice of any amendments to any existing excess per risk reinsurance contract to the commissioner at least 30 days prior to the effective date of the proposed amendments. The notice must include an explanation of the reason for the amendments and a copy of the draft amendments. The reinsurer under the amended contract must be deemed approved by the commissioner unless within 30 days following the submission of the written notice the commissioner enters an order disapproving the reinsurer. Amendments to the contract do not require approval by the commissioner.

(e) Coverage. The association may issue a policy of windstorm and hail insurance that includes coverage that is in excess of a liability limit approved by the commissioner. Any such policy must be issued in accordance with this subsection.

(1) Excess liability limits. The amount of reinsurance excess coverage available to an individual risk must be determined in accordance with the reinsured excess coverage program.

(2) Policy provisions.

(A) The total limit of liability must be the limit of liability insured by the association and the amount of reinsured excess coverage provided on the individual risk under the reinsured excess coverage program.

(B) All terms and conditions of the windstorm and hail insurance policy issued by the association must apply to the reinsured excess coverage provided under the windstorm and hail insurance policy.

(C) The amount of reinsured excess coverage must be shown separately on the declarations page of the policy.

(3) Types of risks.

(A) The association may provide reinsured excess coverage for dwelling structures only, commercial structures only, or for both dwelling structures and commercial structures.

(B) Reinsured excess coverage may be provided on either buildings or contents, or on building and contents. If reinsured excess coverage is provided on building and contents, building structures must be insured for 100 percent replacement cost, up to the total maximum limit of liability

available for the risk and the available reinsured excess coverage amount provided under the reinsured excess coverage program before reinsured excess coverage may be applied to contents.

(f) Premium.

(1) Premium computation. The total premium charged by the association for the reinsured excess coverage provided on a windstorm and hail insurance policy issued by the association must be the total of:

(A) the amount of the excess per risk reinsurance premium charged to the association by the reinsurer for the reinsured excess coverage provided on any given risk; and

(B) the payment to the association that is approved by the commissioner.

(2) Display of premium. The total premium charged by the association for the reinsured excess coverage provided in a windstorm and hail insurance policy issued by the association must be shown separately on the declarations page of the policy.

(g) The premium charged by the association for the excess coverage must be equal to the amount of the reinsurance premium charged to the association by the reinsurer plus any payment to the Association that is approved by the commissioner.

(1) The payment to the Association that may be proposed by the association for approval by the commissioner may include the amount of the direct and indirect costs identified by the association to administer the reinsured excess coverage program and may include costs for claims, underwriting, accounting, technical and administrative support, computer equipment, agent commissions, taxes, and any other administrative costs approved by the commissioner.

(2) The commissioner will issue an order approving or disapproving the proposed payment to the association. The commissioner may take action in the order issued under subsection (d)(2) of this section.

**§5.4029. Applicability of 28 TAC §§5.4029 – 5.4041.**

(a) This section and §§5.4030 – 5.4041 of this title prescribe guidelines that the Texas Windstorm Insurance Association must use to prepare for and settle residential slab claims in Zones V, VE, and V1-V30, as defined by the National Flood Insurance Program.

(b) This section and §§5.4030 – 5.4041 of this title apply only to residential slab claims resulting from an organized weather system that:

(1) has a defined surface circulation and maximum sustained winds of not less than 39 miles per hour;

(2) the National Hurricane Center of the United States National Weather Service names as a tropical storm or a hurricane; and

(3) that the association expects will result in more than 500 residential slab claims.

(c) The association must make an initial determination as to the expected number of claims when the organized weather system is in the Gulf of Mexico or within the boundaries of longitude 80 degrees west and latitude 20 degrees north.

(d) The association must make a final determination as to the expected number of claims no later than 24 hours before expected landfall.

(e) The association may contract with appropriate private or governmental entities to obtain any of the data or services required in this division.

**§5.4030. Definitions Applicable to §§5.4029 - 5.4041.** The following definitions apply to §§5.4029 - 5.4041:

(1) Applicable storm--An event described in §5.4029(b) of this title.

(2) Catastrophe area--A municipality, a part of a municipality, a county, or a part of a county designated by the commissioner of insurance under Insurance Code §2210.005.

(3) Damage estimation module--The module incorporated by reference in §5.4041 of this title.

(4) Expert panel--The panel created under Insurance Code §2210.578.

(5) Hazard module--The component of the wind damage evaluation in which the association gathers data from an applicable storm and uses that data to generate wind speed time histories and surge and wave time histories.

(6) Residential slab claim--A first-party claim on a residential structure of which nothing more remains than foundation elements such as pilings, floor framing members, or concrete slab, and there is insufficient evidence to enable the association to determine the extent to which the loss occurred as a result of wind, waves, tidal surges, or rising waters not caused by waves or surges.

**§5.4031. Wind Damage Evaluation.** To estimate the extent to which damage to structures that are the subject of residential slab claims has been caused by wind, waves, tidal surges, or rising waters not caused by waves or surges, the association must employ both a probabilistic approach and an observational approach as described in §§5.4032 - 5.4040 of this title. The association must use:

(1) a property database, described in §5.4032;

(2) a hazard module, described in §§5.4033 - 5.4037;

(3) a damage estimation module, described in §5.4038;

(4) an economic loss module, described in §5.4039; and

(5) a report generation module, described in §5.4040.

**§5.4032. Property Database.** To ensure the accuracy of information related to residential slab claims, the association must:

(1) gather and, not less frequently than once every year, update applicable pre-event data on insured structures located in the area described in §5.4029(a) of this title. The pre-event data consists of characteristics—specified in the damage estimation module—pertinent to the performance of each insured structure during an applicable storm; and

(2) acquire pre-event high-resolution aerial and on-ground photographs of structures located in the area described in §5.4029(a) of this title to define building characteristics and terrain.

**§5.4033. Hazard Module.**

(a) The hazard module must generate synchronous, site-specific wind speed and direction time histories and storm surge and wave time histories.

(b) The hazard module must include one or more wind field models and a storm surge and wave model.

(c) The association must develop plans and capabilities to obtain reliable surge, wave, and wind field data, which is necessary to implement the hazard module. To the extent possible, this task should be performed in collaboration with federal agencies and other organizations.

**§5.4034. Hazard Module - Wind Measurements.**

(a) Before an applicable storm, the association must take steps to ensure the deployment of mobile measurement platforms and fixed surface-level devices that:

(1) provide real-time wind speed and direction measurements during the applicable storm; and

(2) can be used both for forecasting and producing post-event wind field hindcasts.

(b) Wind measurements must be capable of generating gust wind speed and wind-direction time histories during an applicable storm.

(c) The association must deploy at least 40 to 60 mobile wind measurement platforms in two layers, with the first layer in close proximity to the coastline and the second layer approximately 20 miles inland. The mobile wind measurement platforms must be deployed as follows:

(1) three to five miles apart in the eyewall region of the storm;

(2) up to 10 miles apart in the outer regions of the storm;

(3) with a wind speed and direction sampling frequency of 10 hertz or higher; and

(4) a temperature, barometric pressure, and relative humidity sampling frequency of 1 hertz or higher.

(d) The association must deploy sufficient mobile wind measurement platforms along the coast in front of a land-falling storm to ensure that a high-resolution wind field with small errors—no more than 2 percent of the maximum sustained wind measured in a 30-minute period—can be developed for use in wind damage prediction.

(e) Wherever reasonable, the mobile wind measurement platforms must be co-located with surge and wave gauges.

**§5.4035. Hazard Module - Wind Field Model.**

(a) The association must develop one or more observational models for constructing a wind field to obtain:

(1) site-specific wind speed and direction time histories that are used for wind damage prediction; and

(2) a wind field that can be used as input for a surge and wave model that outputs time histories for surge and wave damage prediction.

(b) The association must take steps to minimize errors between model estimates and the observed wind speeds and directions measured during an applicable storm.

**§5.4036. Hazard Module - Storm Surge and Wave Measurements.**

(a) The association must obtain physical measurements of surge, waves, and high-water marks during and after an applicable storm. Physical measurements of surge, wave, and high-water marks include:

(1) water-level time series during the applicable storm from the National Oceanic and Atmospheric Administration and other permanent tide gauges;

(2) post-event high-water marks;

(3) surge and wave heights from rapidly deployed surge and wave gauges deployed at sites with the potential to be significantly damaged by surge and waves; and

(4) other indications of surge and wave magnitudes, such as elevations of surge and wave damage on buildings.

(b) Before an applicable storm, the association must take steps to ensure that as soon as possible after an applicable storm, the association can acquire and process high-resolution aerial photographs and light detection and ranging (LIDAR) measurements.

(c) Where data is not available from federal or state agencies, the association must take steps to acquire physical measurements of surge, wave, and high-water marks. Any contracts must be in place before each hurricane season.

**§5.4037. Hazard Module - Storm Surge and Wave Model.**

(a) Before an applicable storm, the association must take steps so that it will be able to obtain rapid, post-event high-resolution surge and wave modeling to provide surge and wave time histories.

(b) The surge and wave hazard module must directly incorporate both numerical modeling and the high-resolution aerial photographs and LIDAR measurements required under §5.4036(a) and (b) of this title.

(c) The technical features of the storm surge and wave model must include:

(1) a domain of surge and wave modeling that extends from at least Pensacola, Florida to the Mexican coast at latitude 23 degrees north, and at minimum, 500 km offshore of Texas;

(2) for Texas and parts of Louisiana west of longitude 93.5 degrees west, sufficiently high resolution nearshore and overland to show dunes and other significant features impeding flow, such as a grid with 50 meter or finer resolution (resolution may be coarser offshore and in other locations), with models run on the same grid, if possible, to avoid interpolation errors;

(3) the same wind field used to compute wind damage, which must be a best available reanalysis wind field that incorporates measurements made during the applicable storm;

(4) a drag coefficient that features a high wind cutoff that is defensible from observations or the scientific literature;

(5) wave computations that use a third-generation unsteady spectral wave model that has been tested closely against data from Hurricane Ike and other storms in Texas;

(6) wave computations that include feedback from velocities and water levels generated by the surge model;

(7) wave breaking dissipation that is spectrally based and does not use a simple depth-limited cutoff;

(8) a shallow water model (either depth-averaged or multilevel) that includes convective processes and bottom friction that varies with substrate or vegetation;

(9) tides as an integral part of the model;

(10) the ability to produce initial estimates within 48 hours of landfall;

(11) the ability to readily incorporate new LIDAR topographical data into the grid, and wind data into the surge and wave model as it becomes available post-event, to rapidly produce improved surge and wave model simulations;

(12) the ability to quickly produce estimates of waves and surge as additional data becomes available, and pass these estimates to the association for use in the damage estimation module;

(13) the ability to compare model estimates with measured wave and water level data as it becomes available; and

(14) the ability to produce error estimates for each applicable storm.

(d) The association must ensure that errors are minimized between model estimates and the observed storm surge and wave heights measured during an applicable storm.

**§5.4038. Use of Damage Estimation Module.**

(a) The association must use the damage estimation module to estimate damage to components of a structure that is the subject of a residential slab claim. The association must use the following inputs:

(1) outputs from the wind field and surge and wave models described in §5.4035 and §5.4037, respectively, of this title; and

(2) property database information.

(b) The association must determine the total damage to a structure attributable to wind by:

(1) estimating the time history of wind damage to components and systems according to the damage estimation module, without considering the effects of storm surge and waves;

(2) estimating the probability of collapse due to surge and waves ($P_{surge}$) using Variant 5 of the methodology in Tomiczek, T., Kennedy, A., and Rogers, S., *Collapse Limit State Fragilities of Wood-Framed Residences From Storm Surge and Waves During Hurricane Ike*, Journal of Waterway, Port, Coastal, and Ocean Engineering (ASCE), (2014) 140(1), 43-55, dx.doi: 10.1061/(ASCE)WW.1943-5460.0000212;

(3) estimating the probability that wind caused the collapse of the structure ($P_{wind}$) by determining the maximum of the probabilities of failure for wall studs in bending, the connections of the wall studs to the wall plates, and the shear walls using the damage estimation module;

(4) calculating the time of surge slabbing ($t_{surge}$), which is the earlier of the time at which:

(A) the probability of surge and wave collapse ($P_{surge}$) reaches its maximum; or

(B) the probability of surge and wave collapse first reaches 50 percent;

(5) calculating the wind damage to each building component at the time of surge slabbing ($D_{t\ surge}$) using the damage estimation module; and

(6) calculating wind damage each building component sustained during the applicable storm ($D_{total\ component}$) using the formula:

Figure: 28 TAC §5.4038(b)(6)

$$D_{total\_component} = \frac{P_{surge} D_{t\_surge} + P_{wind}}{P_{surge} + P_{wind}}$$

(c) The association must also use an observational approach, as described in Section 6 of the expert panel's report, along with the probabilistic approach described in §§5.4032 - 5.4040. In using an observational approach, the association must consider the following:

(1) modeled or observed surge and wave heights;

(2) peak wind speed;

(3) post-event photographs referenced in §5.4036(b) of this title; and

(4) observed damage to surviving structures.

(d) The association may input representations of the wind exposure category for eight direction sectors.

(e) The association may also incorporate other methods for computing probabilities of component and system failure due to wind such as the Monte Carlo simulation or the Rackwitz-Fiessler method.

**§5.4039. Economic Loss Module.**

(a) The association must adjust residential slab claims using the damage estimates obtained as described in §5.4038 of this title.

(b) The association must use the wind damage estimates obtained as described in §5.4038 of this title to determine the scope of work and associated costs for each component that was likely damaged by wind.

(c) The damage estimation module does not generate estimates on damage to contents; association adjusters must determine the amount to pay for contents by taking into consideration:

(1) the adjuster's knowledge and experience; and

(2) information about the particular property from the property database, the policyholder, and other sources, including applicable information from the damage estimation module.

**§5.4040. Report Generation Module.**

(a) Not later than 30 days after a policyholder files a residential slab claim, the association must:

(1) notify the policyholder that the association will use the wind damage evaluation method; and

(2) send the policyholder a request for any information the policyholder has on:

(A) wind speed and direction, and surge and waves, at the site of the structure for the duration of the applicable storm;

(B) damage to the structure during the applicable storm; and

(C) new information on the characteristics of the structure. When it sends the request for information, the association must also send the policyholder a copy of the association's current data in the property database on the structure's characteristics.

(b) If the association sends a letter under Insurance Code §2210.573(b), the letter can include the request required under subsection (a)(2) of this section.

(c) At the same time that the association provides the information required in Insurance Code §2210.573(d), the association must also provide to the policyholder a complete residential slab claim report and a summary of the results of the wind damage evaluation. A complete residential slab claim report contains the percentage of damage to each component of the structure, as determined in the damage estimation module, and all the information that the association used in making that determination, including the following:

(1) information on the characteristics of the structure;

(2) wind and wave and surge time histories; and

(3) all information used in the observational approach.

(d) An extension under Insurance Code §2210.573(d) also applies to the deadlines in this section.

**§5.4041. Incorporation by Reference.** This rule incorporates by reference the expert panel's damage estimation module (Section 6 and Appendix A), which is part of the expert panel's report, James R. Bailey, Samuel D. Amoroso, William Coulbourne, Andrew Kennedy, & Douglas A. Smith, *A Proposed Methodology for Estimating Wind Damage to Residential Slab-Only Claims Resulting from a Hurricane Impacting the Texas Coastline*, Section 6, Appendix A, April 18, 2016, *available at* tdi.texas.gov/reports/pc/documents/epfinalrpt.pdf.

## SUBCHAPTER E. TEXAS WINDSTORM INSURANCE ASSOCIATION

## DIVISION 2. REINSURANCE

## 28 TAC §5.4016

**STATUTORY AUTHORITY.** The department proposes repealing 28 TAC §5.4016 under Insurance Code §§36.001, 2210.008(b), and 2210.505(c).

Section 36.001 provides that the commissioner may adopt any rules necessary and appropriate to implement the powers and duties of the department under the Insurance Code and other laws of the state.

Section 2210.008(b) authorizes the commissioner to adopt reasonable and necessary rules to implement Chapter 2210.

Section 2210.505(c) authorizes the commissioner to adopt rules as necessary to implement the section, relating to reinsured excess limits.

**CROSS-REFERENCE TO STATUTE.** The proposed repeal implement Insurance Code §2210.152 and §2210.505.

**§5.4016. Per Risk Reinsured Excess Coverage.**

**CERTIFICATION.** This agency certifies that legal counsel has reviewed the proposal and found it to be within the agency's legal authority to adopt.

Issued at Austin, Texas, on August 23, 2016.

Norma Garcia
General Counsel
Texas Department of Insurance