

February 27, 2015

**Re: Allstate Property and Casualty Insurance Company
Private Passenger Auto
Company Filing Number R26871**

Objection 1

Below are answers to the LDI's questions related to the proposed Complementary Group Rating (CGR) filing.

1. Filing status by state:

In order to be able to classify states into the requested groups below, it is important to first define what CGR is. CGR is a rating plan that provides a structure to adjust the current rate relativity in the direction of the indicated rate relativity under the new GLM-based loss model. CGR is not the retention models, nor are CGR and retention models synonymous in any other way.

a. In which states is the new loss model and CGR currently being used by Allstate when writing new or renewal business?

The new loss model and CGR is currently being used by Allstate in Arkansas, Arizona, Colorado, Delaware, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Mexico, Oklahoma, Oregon, Tennessee, Texas, Utah, West Virginia, Wisconsin, and Wyoming.

b. In which states was the new loss model and CGR approved by regulators?

The new loss model and CGR has been approved in Delaware, Iowa, Kansas, Nevada, and West Virginia.

c. In which states was the new loss model and CGR disapproved by regulators?

The new loss model and CGR has not been disapproved in any states.

d. In which states was the new loss model and CGR filed but subsequently withdrawn?

The new loss model and CGR has been filed and then subsequently withdrawn in Alabama, Florida, Maryland, Pennsylvania, South Carolina, Ohio and Virginia.

e. In which states is the new loss model and CGR currently under regulatory review?

The new loss model and CGR is currently under regulatory review in Colorado, Georgia, Indiana, Minnesota, Montana, Rhode Island, Texas, and Utah.

2. Provide a list of all variables that feed into:

a. The old GLM-based rating plan.

Please see attached RP-2-1A for a list of variables included in the current SRM4 rating plan.

b. The new GLM-based rating plan.

Please see Attachment I, Exhibits 1.1-1.2 for a consolidated list of variables included in the updated GLM-based loss model as provided in the initial filing.

c. The CGR (retention) model.

It is important to understand that CGR is not the retention models, nor are CGR and retention models synonymous in any other way.

Please see Confidential Attachment II, Exhibit 1.1 for a consolidated list of variables included in the GLM-based retention models.

3. Provide a detailed explanation and description of the new GLM-based rating plan model development. Provide an explanation of data used, how the model was tested and validated, measures that demonstrate the statistical significance of model weights, and lift curves that demonstrate the improvement of the new GLM-based model over the old GLM-based model.

Please see Attachment C for a detailed explanation and description of the new GLM-based loss model's development. Please note that this information was previously provided with our response on October 29, 2014.

Please see Confidential Attachment D for measures that demonstrate the statistical significance of model weights. As described in Attachment C, building a model is an iterative process that requires testing and retesting variables to determine the appropriateness of inclusion in the model, simplification of included variables, and interactions between variables. One of the criteria is the standard errors.

The standard error associated with each variable level indicates whether the parameter estimate from the model differs from 0 at a statistically significant level, or equivalently whether the multiplicative factor differs from 1.00 at a statistically significant level. Each variable has a base level assigned and is given a parameter estimate of 0 (multiplicative factor of 1.00), thus there is no standard error associated with the base level. Please note that this information was previously provided with our response on December 19, 2014.

Additionally, a check for whether a parameter's confidence interval contains a zero parameter for each variable in the new GLM-based loss models was provided at the previous request of the Department. The provided confidence intervals were calculated assuming 95% confidence and a normal distribution for each parameter as this was one consideration during the modeling process. Due to the large number of observations used to fit the GLM-based loss model, it is appropriate to treat the parameter distributions as normal.

Please see Attachment B for sets of two-way lift charts comparing the performance of the new GLM-based loss model versus the current rating plan, which Allstate has internally labeled the SRM4 rating plan. Since it would be extremely challenging to score the data set used to calculate the new GLM-based loss model on the current SRM4 rates, it is necessary to first compare the SRM4 rating plan to a more advanced SRM6 rating plan using a previous data set. The SRM6 rating plan is Allstate's most sophisticated rating plan prior to the new GLM-based loss model. However, this rating plan is not available in Louisiana. The SRM6 rating plan is then compared to the GLM-based loss model using the same data.

SRM4 lift charts for Medical Payments and Underinsured Motorists coverages were not previously created due to the lack of spread based rating plans. Lift charts comparing SRM6 to the GLM-based loss model are included in Attachment B for these coverages. Please note that this information was previously provided on December 19, 2014.

4. Provide a detailed explanation and description of the CGR (retention) model development. Provide an explanation of data used, how the model was tested and validated, measures that demonstrate the statistical significance of model weights, and lift curves that demonstrate the improvement of the CGR model over just the new GLM-based model or the old GLM-based model.

It is important to understand that CGR is not the retention models, nor are CGR and retention models synonymous in any other way.

CGR is a rating plan that provides a structure to adjust the current rate relativity in the direction of the indicated rate relativity under the new GLM-based loss model. Therefore, a comparison of the retention models to the loss models is not appropriate due to the fact that the retention models are a separate consideration after first establishing an actuarially appropriate range between the current rate relativity and the indicated rate relativity.

The retention models estimate a customer's propensity to retain in reaction to rate changes. This propensity to retain is used as a substitute for Allstate's position, the position of other insurers, and Allstate's current and estimated competitive position in the marketplace after the proposed rating plan changes. Historically, insurers, including Allstate, have relied upon subjective judgments, often based on little more than anecdotal evidence or educated guessing, that attempted to take these considerations into account when selecting factors and trying to anticipate the impact of rate changes. The CGR process is merely a more granular, more rigorous, more fact based and less subjective process for considering marketing information than the current and traditional judgmental consideration in rate making of market information such as competitive comparisons, close/retention ratios, distributional analysis and dislocation analysis is currently able to attain.

Please see Attachment E for a detailed explanation and description of the GLM-based retention models' development. As this is the first retention model used in the Louisiana Allstate Property and Casualty Insurance Company book of business, we do not have a way to provide lift charts. We have provided goodness of fit charts instead.

Please see Confidential Attachment A for measures that demonstrate the statistical significance of model weights within the retention models. As described in Attachment E, building a model is an iterative process that requires testing and retesting variables to determine the appropriateness of inclusion in the model, simplification of included variables, and interactions between variables. One of the criteria is the standard errors.

The standard error associated with each variable level indicates whether the parameter estimate from the model differs from 0 at a statistically significant level. Each variable has a base level assigned and is given a parameter estimate of 0, thus there is no standard error associated with the base level. Please note that this information was previously provided with our response on December 19, 2014.

Additionally, a check for whether a parameter's confidence interval contains a zero parameter for each variable in the new GLM-based retention models was provided at the previous request of the Department. The provided confidence intervals were calculated assuming 95% confidence and a normal distribution for each parameter as this was one consideration during the modeling process. Due to the large number of observations used to fit the GLM-based retention models, it is appropriate to treat the parameter distributions as normal.

5. What are the five most important risk characteristics under the old GLM-based model? What are their relative weights in the model?

Variable importance can be a very subjective matter to rank. Therefore, we have provided one way to address the question regarding variables and their ranking that is similar for questions 5, 6, and 7.

The approach used for the current SRM4 rating plan calculates the percentage difference between the maximum and minimum factors within a variable. These differences are then sorted and the largest differences identified. If a more specific approach is desired, we can provide that analysis at a later date.

Please see Attachment F, Exhibit 1 for a list of the five most important risk characteristics in the current SRM4 rating plan using the approach described above.

6. What are the five most important risk characteristics under the new GLM-based model? What are their relative weights in the model?

Variable importance can be a very subjective matter to rank. Therefore, we have provided one way to address the question regarding variables and their ranking that is similar for questions 5, 6, and 7.

The approach used for the updated GLM-based loss models calculates the percentage difference between the maximum and minimum parameter estimates within the main effect discrete variables for each coverage and model. These differences are then sorted and the largest differences identified. Continuous variables, variables with interactions, and variable levels with less than 5% of the exposures were not included in this analysis. If a more specific approach is desired, we can provide that analysis at a later date.

Please see Attachment F, Exhibit 2 for a list of the five most important risk characteristics in the updated GLM-based loss models using the approach described above.

7. What are the five most important retention characteristics under the CGR model? What are their relative weights in the model?

It is important to understand that CGR is not the retention models, nor are CGR and retention models synonymous in any other way.

Please see Attachment F, Exhibit 3 for a list of the five most important retention characteristics in the GLM-based retention models.

8. Is it correct that the new GLM-based rating plan is in addition to the old GLM-based rating plan, in other words, both rating plans will coexist if this filing is approved? If so explain how they would coexist and when one rating plan would be used versus the other rating plan. If both coexist, could two identical classified risks receive different rates because one is written under one of the coexisting rating plans and the other is written under the other rating plan?

There are not two distinct rating plans. The new CGR structure is an additional rating step added to the approved current rating plan. All customers will be rated using the exact same rating calculation steps on file with the Department once approved.

In order to respond to the Department's question regarding "identical risks," we note that Allstate takes a broad interpretation of the term "identical risks." Allstate defines identical risks as discrete, separate risks having the same rating plan characteristics as identified by both the underlying rating plan characteristics and the same GLM-based loss model characteristics for each coverage. Utilizing this interpretation, it is possible that two identical risks – if assigned to different micro-segments, could receive a different CGR factor.

To account for and address such a possibility, during the table update process, a mandatory check is performed to verify that any identical risks will be charged the same premium. Allstate has not yet found any identical risks in states where this check has been performed, including Louisiana. This is not an unexpected result, since the large number of possible price points when combining the proposed rating plan characteristics and the same GLM-based loss model characteristics for each coverage make it extremely unlikely for identical risks to occur.

9. If retention is an objective of CGR, is there a relationship between expected retention and expected future costs? If so, can this be demonstrated using present value analysis or other actuarial calculations?

The use of a retention model accomplishes the goals of mitigating customer disruption while adequately covering expected loss and expense costs. By increasing aggregate retention, the expenses associated with acquiring policies are more effectively covered over the lifetime of the policy. All else being equal, an increase in aggregate retention is directly related to a decrease in expense ratio. For a simplistic example, if you were to assume that the expense ratio for acquiring business was 15% while the expense ratio for maintaining business was 5%, and we further assume that 90% of the book of business are renewing policies, then the average expense ratio would be $15\% * (1 - 90\%) + 5\% * (90\%) = 6.0\%$. By including sophisticated knowledge of retention in the factor selection process, retention is likely to be improved, and thus decrease the average expense ratio for the book of business. Continuing the prior example, if 92% of the book of business becomes renewing policies, then the average expense ratio improves to 5.8%.

Consumers also stand to benefit when retention is maximized; in the long-run the company needs to spend less on Acquisition Costs to fuel growth ultimately leading to a lower company expense ratio, all else being equal.

10. With the new GLM-based rating plan, with or without CGR, there may often, if not always, be one policy in a rating/classification cell (the combination of rating plan classification, with or without CGR segmentation).

- a. Explain how this situation meets the CAS Principles on ratemaking.**
- b. Explain how this situation produces a reliable/credible rate for the individual.**
- c. Explain how this does not violate the concept of pooling insurance risks.**

While one policy may fall into a classification cell, indicated rates are not determined at the classification cell level. Rather, indicated rates are developed using the class-based and GLM-based loss model discussed in question three.

Allstate's proposed rating plan in Louisiana includes Complementary Group Rating as a cost-based factor representing one of the 47 rating steps. The CGR rating step consists of a granular classification, known as micro-segments, which are each mapped to one of a possible 1,000 Complementary Groups. Each Complementary Group has an associated rating factor.

We use a cost-based analysis to develop the filed Complementary Group assignment for each micro-segment. In this analysis, Allstate first determines an actuarially sound range of CGR factors for each micro-segment. The actuarially sound range is defined from the CGR factor that would result in no change to the current premium for the micro-segment to the factor that would result in charging the fully indicated premium determined by the updated, GLM-based loss model. Therefore, every micro-segment receives a factor in the actuarially sound range.

Both estimates of loss costs used to define the range are derived from actuarially sound practices. The current premium is an actuarially sound estimate of expected future costs, as it is the result of previously filed and approved actuarial rating plan analysis. The fully indicated premium relativity from the new GLM-based loss model represents the prediction from the latest loss cost model update completed by Allstate and is likewise developed under actuarial and predictive modeling best practices described in question three above. Since the final CGR factor for each micro-segment results in a premium that is bounded by these two actuarially sound cost estimates – the CGR rating plan meeting the CAS principles on ratemaking, produces a reliable/credible rate for micro-segments, and does not violate the concept of pooling insurance risks.

11. If the new GLM-based rating plan and CGR were approved, how frequently would the CGR model need to be updated to remain viable to the company?

It is important to understand that CGR is a rating plan that provides a structure to adjust the current rate relativity in the direction of the indicated rate relativity under the new GLM-based loss model.

Historically at Allstate, new rating plans such as the current SRM4 rating plan are introduced every five plus years due to the large systems costs associated with major project implementations. The CGR structure lowers the expected systems cost for future rating plan implementations creating additional flexibility to update and subsequently implement the GLM-based loss model more frequently and efficiently. Allstate continues to evolve in this regard and will continue to evaluate the appropriateness of any effective loss model.

- 12. The CGR factor table has a range between 0.11 and 9.38. Does this mean a micro-segment premium can actually be 89% lower or 838% higher than the selected class rate? If so, explain why such a large range makes sense or how will it be utilized in practice.**

The Complementary Group Rating (CGR) Factor table was designed with a wide factor range in order to ensure the selection of premium between current and indicated is possible now and in the future. The maximum and minimum applied CGR factors in the proposed filing are 1.4668 and 0.7759, respectively.

- 13. Risk and policyholder characteristics change over time. If a mid-term policy change occurs, the loss-based class plan will adjust the rate charged “correctly.” Would CGR be able to keep up with these changes in a timely and fair manner mid-policy term?**

Policyholder characteristic changes mid-policy term captured in the underlying rating plan excluding the CGR factor will result in an updated charged premium at the time of endorsement. Policy characteristic changes mid-policy term attributable to a change to the rated ZIP code or a change to the oldest operator on the policy, in addition to being reflected in the underlying rating plan excluding the CGR factor, could also result in a change to the micro-segment assignment for a particular policy. The new micro-segment assignment can potentially change the rate that the policy is charged.

Any updated policyholder characteristics would subsequently be captured in the table update process.

- 14. CGR, ideally, would require frequent filings (more than once per year) to keep up with changing characteristics and/or the company’s non-loss based objectives. Does this mean that Allstate will be filing adjustments in Louisiana multiple times during a calendar period?**

Adjustments to the CGR table would be made with a table update filing. These updates are intended to adjust the micro-segment assignments to incorporate characteristic changes on current policies and new business written since the last update. The process used to update the table would follow the same process used with this initial filing unless otherwise specified.

Allstate anticipates submitting up to three or four CGR filings a year. However, unless otherwise noted, these filings will not revise the CGR factors in the rating manual or the loss models used to calculate estimated loss cost. These filings will update the assignment table, which contains the assigned Complementary Group for each micro-segment.

- 15. Is CGR revenue neutral? If not, is it adjusted to be revenue neutral?**

This filing is proposing a revenue neutral change.

- 16. It appears that CGR, over time, would produce a bias either above or below the actuarial indicated rate level. This, in kind, would produce an actuarial rate indication in the opposite direction when the next rate review is conducted. What is your expectation? How should this situation be handled in future rate filings, if at all?**

We believe your question refers to a bias that could be produced when selecting factors outside of an actuarially cost-based range. We agree that if this type of selection is made, a cyclical situation could occur where the subsequently filed actuarial indication tries to “correct” for this selection. However, this is NOT what Allstate does. We select within the actuarially acceptable range and therefore do not expect this type of bias to emerge.

- 17. CGR is dependent on the mix of in-force policies. As the mix changes, so might the CGR factor assignments (and impact the bias mentioned above). If this is an accurate observation, provide your thoughts on this possibility.**

Selecting factors that move towards indicated has always been dependent on mix of business considerations. CGR does not change this relationship and therefore any dependence on mix of business is not directly due to CGR.

Additionally, CGR factor assignments do not change unless filed with the Department.

- 18. Will there be market place disruption if Allstate were to implement the new rating plan generated by the new GLM-based model and CGR model?**

- a. What were the swings in price charged in other states where CGR has already been implemented? Provide a distribution in 5 percentage increments.**

Please see Attachment G for distributions of expected percent change in five percent increments for select other states where CGR has already been implemented. Estimated percent impacts for Louisiana have also been included for ease of comparison. We can provide additional states if this information is valuable to the Department.

The estimated percent impacts provided in the proposed filing reflect a business constraint that micro-segments may increase by a maximum of twenty percent. If the Department is concerned with the level of expected impacts in the proposed filing, different constraints can be made available.

- b. Can a table by new GLM-based class be constructed showing the class counts and percentage range of micro-segment premium changes from the class indicated rates, e.g., CGR selected premium divided by class selected premium? If so, provide two tables, one to be constructed for a grouping of states where the new GLM-based model and CGR model are already in use and a second based on expected premium movement for your Louisiana’s book of business.**

Due to resource limitations, this information would be very time consuming to produce. In order to address the Department’s concerns, please reference the summary statistics and quantitative support that was requested during the meeting in January with the Commissioner. Please let us know if there are other views of this data that help with the Department’s review.

Policyholder Selected Percent Change

<u>Policyholder</u> <u>Indicated</u> Percent Change	0% to 5%	5% to 10%	10% to 15%	15% to 20%	20% to 25%	25% to 30%	30% to 35%	35% to 40%
0% to 5%	16,886	52	18	9	4	1	1	0
5% to 10%	11,798	3,940	18	7	2	2	0	0
10% to 15%	11,164	980	2,596	7	2	1	0	0
15% to 20%	9,660	684	436	1,973	1	0	0	0
20% to 25%	8,383	563	103	1,879	2	0	0	0
25% to 30%	6,482	498	89	1,537	3	3	1	1
30% to 35%	4,726	391	57	1,214	4	1	0	0
35% to 40%	3,230	302	62	990	3	2	1	0
40% to 45%	2,330	229	47	742	3	3	0	0
45% to 50%	1,513	186	51	609	6	1	0	0
50% to 75%	3,368	498	98	1,498	6	2	2	0
75% to 100%	1,079	152	31	430	3	0	0	0
>100%	835	76	22	171	1	1	0	0

Parish	Avg. Policyholder Selected Percent Change	Avg. Policyholder Indicated Percent Change	Parish	Avg. Policyholder Selected Percent Change	Avg. Policyholder Indicated Percent Change
	Acadia	-1.2%		-7.6%	Madison
Allen	-0.7%	-1.0%	Morehouse	-0.2%	0.6%
Ascension	0.3%	7.9%	Natchitoches	-1.2%	-1.1%
Assumption	-1.7%	-4.4%	Orleans	1.9%	7.7%
Avoyelles	-0.5%	4.3%	Ouachita	0.9%	10.9%
Beauregard	-0.5%	-5.0%	Plaquemines	1.9%	8.3%
Bienville	-1.3%	-8.8%	Pointe Coupee	-0.4%	-1.7%
Bossier	0.3%	-3.0%	Rapides	-0.2%	2.2%
Caddo	-0.1%	-3.3%	Red River	-1.3%	-6.3%
Calcasieu	0.3%	0.9%	Richland	-0.6%	11.1%
Caldwell	-0.9%	7.4%	Sabine	-1.6%	-5.3%
Cameron	-0.5%	-0.5%	Saint Bernard	0.3%	2.3%
Catahoula	0.2%	-8.5%	Saint Charles	0.3%	2.8%
Claiborne	-1.1%	-7.3%	Saint Helena	-0.9%	0.7%
Concordia	-1.1%	-7.7%	Saint James	-0.7%	1.6%
Desoto	-1.2%	-4.0%	Saint John The Baptist	0.1%	5.3%
East Baton Rouge	0.2%	1.3%	Saint Landry	-0.4%	-3.8%
East Carroll	-1.2%	12.4%	Saint Martin	-0.8%	-5.2%
East Feliciana	-1.1%	-1.5%	Saint Mary	-1.0%	-6.4%
Evangeline	0.6%	2.0%	Saint Tammany	-0.7%	-2.7%
Franklin	-0.6%	3.2%	Tangipahoa	-1.3%	-4.7%
Grant	0.5%	4.6%	Tensas	-2.2%	-11.0%
Iberia	-0.9%	-7.0%	Terrebonne	-0.4%	-3.9%
Iberville	-0.5%	-3.0%	Union	0.0%	1.3%
Jackson	0.1%	9.0%	Vermilion	-0.6%	-6.0%
Jefferson	0.9%	6.1%	Vernon	-0.6%	-0.3%
Jefferson Davis	0.0%	-2.9%	Washington	-2.2%	-7.8%
Lafayette	-0.1%	-2.8%	Webster	-0.8%	-9.3%
Lafourche	-0.3%	-0.9%	West Baton Rouge	-0.8%	-6.5%
Lasalle	-1.7%	0.7%	West Carroll	-1.1%	-0.2%
Lincoln	-0.6%	-4.6%	West Feliciana	-1.0%	-5.7%
Livingston	0.1%	4.7%	Winn	0.6%	11.5%
Louisiana Total	0.0%	0.0%	Louisiana Total	0.0%	0.0%

Additionally, please reference the response below in regards to a discussion over the phone with Mr. Steinert after receiving the questions above.

- 1. For two similar risks that vary only in their shopping behavior, will the use of the retention model charge more to the individual who is less elastic? Since it can be shown that the cost of obtaining new business is higher than that of maintaining business, how is this not in violation of actuarial principles?**

As discussed in question eight, identical risks, defined as discrete, separate risks having the same rating plan characteristics as identified by both the underlying rating plan characteristics and the same GLM-based loss model characteristics for each coverage, if assigned to different micro-segments, could receive a different CGR factor.

To account for and address such a possibility, during the table update process, a mandatory check is performed to verify that any identical risks will be charged the same premium. Allstate has not yet found any identical risks in states where this check has been performed, including Louisiana. This is not an unexpected result, since the large number of possible price points when combining the proposed rating plan characteristics and the same GLM-based loss model characteristics for each coverage make it extremely unlikely for identical risks to occur.

For risks that are not identical, there are many ways to define “similar” risks, and any price differences would likely be dominated by loss cost differences since fixed expenses are a small portion of the total premium. However, for the sake of theoretically answering the question posed, we will move past any discussion of what similar risks could entail and the difficulties associated with identifying the drivers of the price differences.

To avoid confusion, let’s suppose that two risks are identical, as defined above, except that they are located in two different territories. In the event one of these risks is more likely to defect, the factor selection process could produce different factor selections. Assuming that both of these risks are indicated to increase, the less elastic customer may be selected to increase by more than the customer that is more likely to defect, but importantly, both would only move within the actuarially acceptable range.

It is important to note that each of these customers have the same fixed expense included in their indicated premium. We currently do not vary our expense costs by segment in Louisiana, which is a common industry practice and has not been considered a violation of Actuarial Principles. Since the indicated premium leveraged in the factor selection process appropriately includes both loss and expense costs, it is an actuarially sound estimate of the costs associated with risk transfer. Furthermore, the process to select a factor along the continuum of current and indicated is both actuarially appropriate and consistent with historical business practices that are currently leveraged by the marketplace.

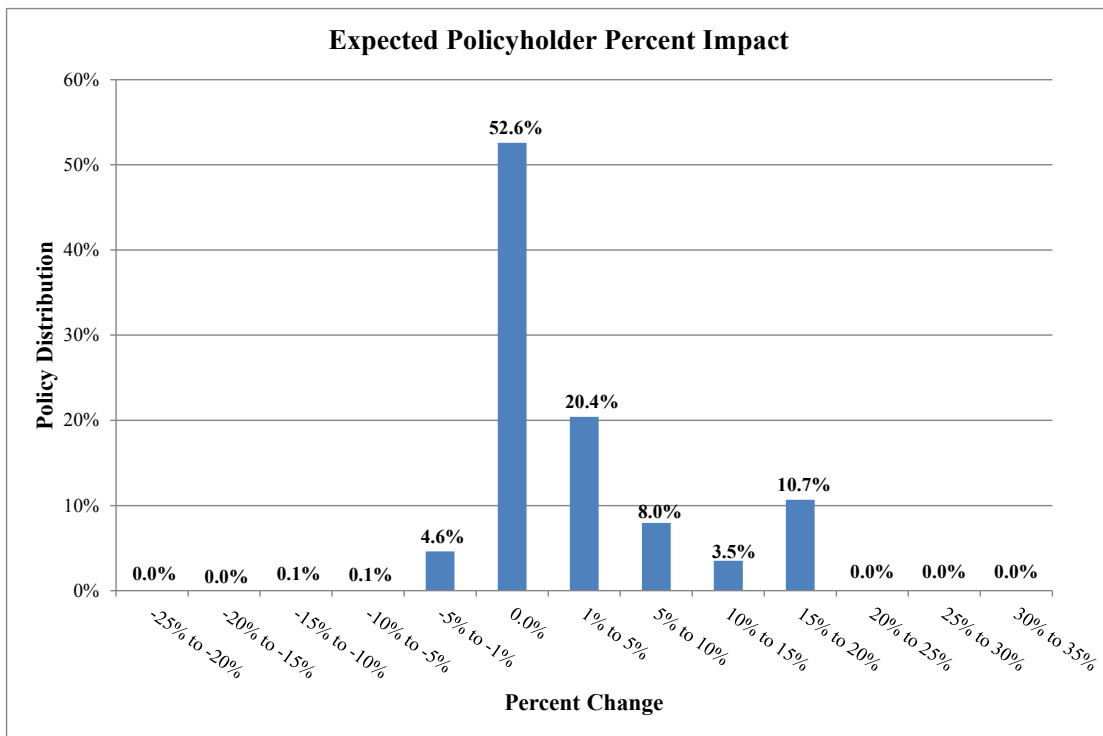
To understand how an improvement in retention can improve the expense ratio, please see question nine above.

Exhibit H

Louisiana Rate Revision Questionnaire

For private passenger automobile, homeowner, and medical malpractice insurance, the LDOI requests that the following information be provided.

1. Provide a histogram depicting the percentage (%) of policyholders statewide that will receive a rate change by 5-point increments. A sample is provided below. If you are unable to provide an exact distribution of policyholders by increment, then an estimate will be acceptable.



2. Please provide a brief description of the risks that are at or near the maximum estimated rate change.

Risks that are at or near the maximum estimated rate change are indicated to increase up to their selected change.

3. What is the number of policyholders at the statewide minimum and maximum percentage rate change?

**One policyholder is at the statewide minimum percentage rate change of -26.7%.
One policyholder is at the statewide maximum percentage rate change of +34.7%.**