DISB ADDITIONAL INFORMATION REQUIRED FOR REVIEW OF GLMs

1) Data Used in the Creation and Testing of the Model

   a) Document the sources of data, both internal and external.

   b) Document the scope of the data (years, companies, geographies, etc.).

   c) If "countrywide" data was used, provide the percentage distribution of states in the dataset.

   d) Document the process for reviewing the appropriateness and accuracy of the data.

   e) Identify any material limitations or defects found or believed to exist in the data.

   f) What, if any, data was excluded and how does that impact the results?

   g) Describe any limitations of the analysis resulting from the issues or concerns with the data.

   h) Describe any adjustments made to the raw data (trend, development, exclusion of catastrophes, etc.).

   i) What percent of the data was used for training versus testing (hold-out)?

   j) If this is an update of a model previously approved, describe material changes in data.

2) Variables Used and Adjustments Made

   a) List ALL variables used in the model, including geodemographic control variables, with a common language description of each.

   b) Provide table showing which variables are used in the models for each peril/coverage.

   c) Document whether the variables are continuous, discrete, or categorical.

   d) Explain any transformations that were made to the variables (natural log, binning, etc.).

   e) Describe any offsets, weights, or other variables used in the model.

   f) Does the model target pure premium or frequency and severity separately? Why?

   g) If this is an update of a model previously approved, describe material changes in above.

3) Assumptions and Model Validation

   a) Document the distributions, parameters, and link functions chosen in the model.

   b) Describe tests for and adjustments made for correlation, multicollinearity, or aliasing.

   c) Provide the model coefficients, p-values, and confidence intervals.

   d) Document any credibility procedures used in connection with the model.

   e) Describe the methods used to validate the assumptions and assess the goodness of fit.

   f) Describe actions taken to assess model stability such as bootstrapping or cross-validation.

   g) Provide lift charts, Gini-index scores, loss ratio charts, and other statistics analyzed by the company during the modeling process. All charts and statistics should be based on selected (not indicated) values and be calculated using DC data rather than the hold-out dataset.

   h) If this is an update of a model previously approved, provide a double-lift chart.

4) Regulatory Compliance

   a) Is this model being implemented countrywide? If so, in what states has it been filed and/or approved? Separate the lists into "prior approval" states versus "all other".

   b) Is consumer demand considered in the model? If so, how?