Compliance Efforts Around the Use of Cat Models in Pricing

2014 CAS Ratemaking and Product Management Seminar
March 30-April 2, 2014

Agenda

- Compliance Overview
  1. State Regulation
  2. Actuarial Standards ASOP 38
  3. Federal Regulation (Dodd Frank)
- Due Diligence Work and Model Validation Framework
- Challenges

State Regulation of Models

New York: Models are not allowed

Maryland: Insurers who uses a catastrophic modeling for rate making and underwriting are required to comply with §19-211 of the Insurance Article, which includes a questionnaire to describe the use of models. MIA will review the questionnaire and schedule a time for filing company's representatives to come into the MIA, along with the vendors of the models to demonstrate the model and explain in detail the data used in the model and the manner in which the output is obtained.

South Carolina: A panel of experts reviews SC specific information. Additional requirements on output, assumptions, building codes for filing companies.

Georgia: concerns by the Department over the use of models. Additional support using historical data.

Louisiana: Requires filling companies to submit Model Interrogatories part A (by insurers) and part B (by vendors).

Florida: Use one Florida Commission Approved Model; No Blending is allowed.

Hawaii: Latest approved model: AIR 2009 and RMS 2006 versions.

Compliance State with Regulations

- Model Version – State approved versions.
- Documentation of modeling assumptions: Event Catalogue(Long term vs. Near term), Demand Surge switch, Storm Surge switch, data resolution, assumptions for unknown characteristics, etc.
- Demonstrate the understanding of the models and compliance with actuarial standards - Model validation and due diligence work

Dodd-Frank Federal Regulation

- Impact insurers with bank or thrift subsidiaries
- Enhanced ERM function and new requirements of independent model validations
- Needs to create a model validation framework and additional documentations

Model Validation

- Design an efficient framework to satisfy the various compliance needs
  - Verify model assumptions
  - Historical events comparisons
    - Total event loss
    - Wind field map
  - Year to year comparison of loss cost and loss curves
  - Compare multiple models' assumptions and output, understand the differences in hazard, vulnerability and financial modules
  - Reasonableness of relationships amount various output results
  - Sensitivity of variations in user inputs
- **Documentations**

Challenges

- The resource needed to maintain multiple versions for different jurisdictions
- The different assumptions required for difference purposes (rate making vs. rating agencies)
- In depth knowledge outside of actuarial areas of expertise