

CT Insurance Department – Property Casualty Actuarial Checklist

Personal Lines – Auto/ Homeowners/ Dwelling Fire & Extended Coverage/ Personal Umbrella
and other lines of business as appropriate or deemed necessary by the Department

Instructions for Sections A - C:

- Please complete in its entirety. Desired answers are YES. For NO answers, please list Section with Item number and explain in Notes Section of the checklist. If Not Applicable (N/A) is selected, provide explanation as necessary.
- It is expected that actuarial exhibits will follow Actuarial Standards of Practice as promulgated by the American Academy of Actuaries. Actuarial documentation is expected to include actuarial memo/narrative to explain the methodology together with comprehensive technical exhibits annotated with accurate formulas and footnotes.
- Please contact susan.gozzo.andrews@ct.gov Susan Gozzo Andrews, FCAS, MAAA, RPLU+, PIR if you have any actuarial questions.

SECTION A: Rate Level Indications	YES	NO; Requires explanation	N/A
1. Actuarial Memo – described the actuarial methodology and exhibits			
2. Rate Level Indication Exhibits - provided as appropriate to filing:			
a. Statewide Total Indication Exhibit/chart to match Rate/Rule tab			
b. Statewide by Form (HO); by Coverage (Auto)			
c. HO - By peril indications, if rates/rating factors are changing by peril			
d. Auto - Appendix 2 by coverage completed and matches Rate/Rule tab			
3. Premium Adjustments			
a. Showed on-level factors for parallelogram method with rate change history shown; or stated in Actuarial Memo that “extension of exposures”/re-rating at current rates method was used.			
b. Premium Trend - included source of selected annual trend, trend period for historical and prospective trend periods, calculated trend factors			
4. Loss Adjustments			
a. Loss Development Factors – showed source of selected factors			
b. Loss Trend – included source of selected annual trend, trend period for historical and prospective trend periods, calculated trend factors			
c. Auto Loss Trend – Appendix 5 was completed which matches the trend exhibits			
d. Documentation has been provided to support the selection of Ultimate Losses if other than the development methodology has been used.			
e. Ultimate Losses have not been discounted. Investment Income on reserves is to be reflected as an offset to Underwriting Profit per our Statutes.			
5. Loss Loads - Provided support that includes both a narrative and exhibits to show the derivation of all the selected factors including:			
a. Large Loss and Excess Loss ratios/loads			
b. Catastrophes – internal data and/or modeled data. Note: If using AIR/RMS, included short paragraph about the parameters selected for the model (i.e. model version, Demand on/off status), and showed any trending (with support for trend factors for use in the filing).			
c. Adjusting Other Expense and/or Defense Cost Containment Expense - a three year history based on CT experience was shown to support selected percentages.			

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SECTION A: Rate Level Indications - continued	YES	NO; Requires explanation	N/A
6. Reinsurance Costs and Net Retained Risk amounts			
a. A narrative was provided to explain sources for these amounts and how these items are treated in the indications; i.e., as loss components and/or expense loads.			
b. Exhibits were provided to show derivation of the numbers selected for use in the indication.			
7. Expenses			
a. Provided a three year history based on CT experience to support selections; provided an explanation if other than CT experience was used for selected expense support.			
b. An expense summary was included to show expenses split by fixed and variable expenses which ties to numbers used in the Indication pages.			
c. Permissible Loss Ratios used in the indications have been derived on the expense summary exhibit.			
d. Auto filing included Expense flattening exhibit per Bulletin PC-68 Appendix 4A.			
e. If fixed expense trend was used, both the source of the expense trend and the trending time period were provided.			
f. Support is shown for the development of Expense Fees that are changing showing current, indicated, selected and % change.			
8. Underwriting Profit/Contingencies			
a. Documentation to support these factors is required. The methodology and factor selection for underwriting profit/contingency factor selection is discussed in the actuarial memo.			
b. For internal rate of return models, the model exhibits showed the target rate of return assumed in the rate level indication.			
c. In accordance with CT Statutes, investment income has been reflected as an offset to underwriting profit.			
9. Credibility and Complement of Credibility			
a. Credibility standard is discussed and shown in narrative/exhibits.			
b. Calculation of credibility for each use in the filing is shown; indications, territories, trends, cat loads, etc.			
c. Complement of Credibility methodology is discussed.			
d. Complement of Credibility derivation is shown with sources of information used in the calculation included.			
10. Indication Formulas to show the mathematics			
a. Weights for the Accident Year experience and formula to derive the weighted average was provided.			
b. Formulas to show all the components of the Indication; i.e., Non-CAT, CAT, fixed expense and fixed expense trending are clearly labeled.			
c. Exact formulas to show derivation of the resulting indications are included in a comprehensible and readable presentation.			

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11. Territorial Indications – for territorial base rates or relativity factors			
a. For Auto – indications have been provided as outlined in Bulletin PC-68, utilizing 75% of territory experience and 25% of the statewide experience indication.			
b. Territorial exhibits show current rate/factor, indicated, selected and % change.			
c. The actuarial memo provides explanation of the territorial methodology.			
12. Base Rates			
a. Base rate exhibits show current rate/factor, indicated, selected and % change.			
b. The actuarial memo provides explanation of how base rates were derived or selected.			

Section B: Rates/Rating Factor Changes Support and Impacts	YES	NO; Requires explanation	N/A
1. Red-line Rate Pages – Red-line pages, or Side-by-Side exhibits have been provided for all rates and rating factor changes.			
2. Histograms by percent change and dollar amount change were provided if any individual's impact would be greater than 10%.			
3. Filing Memo - memo to explain what changes are taking place.			
a. The filing memo provided a narrative to explain <u>all</u> rates and rating factors including expense fees, minimum premium changes, rating algorithms and capping that are changing.			
b. The filing memo or actuarial memo discussed the methodology or process for each changing element to arrive at the selected rates/factors.			
4. Exhibit to show Roll-up of all changes: A premium impact chart has been provided with includes separate rows for each changed rating element beginning with the Base Rate to show the impact of each factor to arrive at the overall impact of the change shown in the Rate/Rule tab. <i>Note: This needs to be done by Form/Peril & total for HO; by Coverage and total for Auto; and to match the Rate/Rule tab for all other lines of business.</i>			
5. Support is needed for <u>all</u> rates/rating factor and elements that are changing. It is not enough to discuss changes in the memo, and show only proposed rates/rating factors as new pages.			
a. Exhibits with current, indicated and selected rates/rating factors with % change need to be shown for each changed element.			
b. <u>Rating elements from GLM output</u> - Exhibits to show the indications for each set of rating factors from the models together with the current and proposed factors have been provided. Specific explanation when the model results are not selected was provided.			

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Section B: Rates/Rating Factor Changes Support and Impacts - cont'd	YES	NO; Requires explanation	N/A
<p>5. Support is needed for all rates/rating factor and elements that are changing. It is not enough to discuss changes in the memo, and show only proposed rates/rating factors as new pages. - continued</p> <p>c. <u>Support for selected factors using competitor's information</u> - SERFF tracking number/State tracking number for the competitor's filing that you are showing rates/rating factors from was provided.</p> <p>Note 1: We do not mean the competitor's latest filing, but the filing which actually shows the factors being cited with page number references from the filing.</p> <p>Note 2: We cannot allow market basket competitor comparisons from rate quoter organizations to support your changes. While we understand that the company may be using this to decide to make a change, we need to see exhibits with each competitor rates/rating elements as support for the rates/factors that have been selected.</p>			
<p>d. <u>Support using ISO loss costs/relativities</u> - SERFF Tracking Number/State Tracking numbers and page references were provided.</p> <p>Note: We cannot accept ISO circulars as the Department does not have access to ISO circulars. The ISO circulars include the SERFF filing numbers and this is what must be provided.</p>			
<p>e. <u>Support for changing LCM (Lost Cost Multipliers)</u> – Exhibits and narrative has been provided to explain the LCM changes.</p> <p>Note 1: For LCMs, this includes a comparison of the proposed and current LCMs total broken out by the “pure LCM” component based on filed expense ratios ($1 / (1 - \text{total expense ratio})$), and the “loss modification factors”.</p> <p>Note 2: Exhibits need to show % changes for the proposed LCMs in total and separately by “pure LCM” and “loss modification” components.</p>			
<p>6. Automatic Rate Increases – Please confirm that there is NO mechanism in your rating algorithm that included an automatic trend factor that will increase rates.</p> <p>Note: All rate changes must be filed with the Department.</p>			
<p>7. NEW PROGRAMS or Vastly Overhauled Existing Programs</p> <p>In addition to Items 1-5 in Section C, support is expected to be provided for the development of the following including narrative to explain this:</p> <ul style="list-style-type: none"> • Base Rates, Territory Base Rates, Base Rates by Peril • Expected Expense Exhibit with support for the selection of these ratios. • Minimum premium support • Expense Fee support • Rating algorithm chart <p>Note: We would encourage a call with the Department to discuss before the company makes such a filing.</p>			

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Section C: Models*	YES	NO; Requires explanation	N/A
1. For all GLMs (Generalized Linear Models) used in this filing including “refreshes” of a model that is already filed in CT, in addition to the methodology narrative and exhibits to explain the methodology, the CT GLM Checklist has been submitted.			
2. For non-GLM models that your company is using in this filing, narratives of the methodology with explanatory exhibits/charts to show the effectiveness of these methods over the current rating plan including a discussion of the data sources used (both internal company and external data) has been provided. <u>Note 1:</u> <i>We are looking for analogous information for these non-GLM models that we require for GLM models. We would encourage you to adapt our current GLM checklist as applicable for your non-GLM model for efficiency to assist in our review of your non-GLM model.</i> <u>Note 2:</u> <i>This includes non-GLM models such as multivariate, Gradient Boosted Tree, regression and other innovated methodologies by the company.</i>			
3. Artificial intelligence (AI) and /or Machine Learning used for rates or rating factors in this filing has been described with methodology narrative including exhibits to explain the methodology.			

* Note: We mean Company developed and used models here; we are not asking for AIR, RMS or vendor models.

- Vendor models (including telematics devices or score models) need to be submitted as separate filings to the Department.
- If you are using AIR/RMS modeled loss information in your CAT models as your data source, you must still supply GLM checklist information around your own modelling with this CAT data for your CAT rates/rating factor for CAT perils.

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Notes Section:

Please provide Section number and Item number in addressing your responses.