Capital Adequacy (E) Task Force
RBC Proposal Form

☐ Capital Adequacy (E) Task Force
☒ Catastrophe Risk (E) Subgroup
☐ Variable Annuities Capital. & Reserve (E/A) Subgroup
☐ Health RBC (E) Working Group
☐ P/C RBC (E) Working Group
☐ Economic Scenarios (E/A) Subgroup
☐ Life RBC (E) Working Group
☐ Longevity Risk (A/E) Subgroup
☐ RBC Investment Risk & Evaluation (E) Working Group

DATE: 1/23/24

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ON BEHALF OF: Solvency Workstream of the Climate & Resiliency (EX) Task Force
NAME:
TITLE:
AFFILIATION:
ADDRESS:

FOR NAIC USE ONLY

Agenda Item # 2023-17-CR
Year 2024

DISPOSITION

ADOPTED:
☒ TASK FORCE (TF) 04/30/2024
☒ WORKING GROUP (WG) 04/25/2024
☒ SUBGROUP (SG) 04/23/2024
EXPOSED:
☐ TASK FORCE (TF)
☐ WORKING GROUP (WG)
☒ SUBGROUP (SG) 01/29/2024 03/17/24
REJECTED:
☐ TF ☐ WG ☐ SG
OTHER:
☐ DEFERRED TO
☐ REFERRED TO OTHER NAIC GROUP
☐ (SPECIFY)

IDENTIFICATION OF SOURCE AND FORM(S)/INSTRUCTIONS TO BE CHANGED

☐ Health RBC Blanks ☒ Property/Casualty RBC Blanks ☐ Life and Fraternal RBC Blanks
☐ Health RBC Instructions ☒ Property/Casualty RBC Instructions ☐ Life and Fraternal RBC Instructions
☐ Health RBC Formula ☒ Property/Casualty RBC Formula ☐ Life and Fraternal RBC Formula
☐ OTHER _____

DESCRIPTION/REASON OR JUSTIFICATION OF CHANGE(S)

The Solvency Workstream of the Climate & Resiliency (EX) Task Force was tasked with considering the development of climate scenario analysis. The workstream held three public panels on the topic in 2022 and in 2023 learned that commercial CAT modelers have products known as "Climate Conditioned Catalogs" that reflect adjusted frequency and severity for certain time horizons (e.g. 2040 or 2050) that if compared side by side with existing RBC data in PR027 would provide an estimate of climate change for hurricane and wildfire. The information is intended to be useful for domestic regulators holding conversations with insurers that may have a greater degree of risk levels for these perils.

Additional Staff Comments:

4/22/24 – the proposal was revised based on the regulator inputs.

** **This section must be completed on all forms.** **Revised 2-2023**

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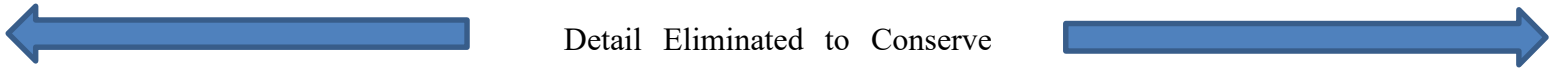
CALCULATION OF CATASTROPHE RISK CHARGE RCAT
PR027A, PR027B, PR027C, PR027, PR027B2, PR027C2 AND PR027INT



DISCLOSURE OF CLIMATE CONDITIONED CAT EXPOSURE
PR027B2, PR027C2

These disclosures aim at collecting the impact of climate related risks on the modeled losses for the perils of hurricane and wildfire that have been used in PR027B and PR027C respectively. These disclosures will be effective for YE 2024, YE 2025 and YE 2026 reporting .The intent of these disclosures is for informational purposes only and not to determine a new RCAT charge. The impact should be estimated using the following specific instructions:

- Representative Concentration Pathway (RCP) represents a set of projections that are meant to serve as an input for climate modeling, pattern scaling and atmospheric chemistry modeling. For purposes of these instructions, companies should utilize an RCP of 4.5 (or equivalent SSP).
- The impact should be assessed separately under two-time horizons 2040 and 2050.
- Assume a static in-force book of business at year end (no changes to book of business, to reinsurance strategy or to total insured value (TIV) inflation over the projected time horizon).
- The impact can be modeled using either a Climate Conditioned Catalog developed by a commercial CAT model vendor or equivalent view of climate risk internally developed by the insurer or that is the result of adjustments made by the insurer to vendor provided catalogs to represent the own view of climate risk.

The same basic information is required to be completed for this PR027B2 and PR027C2 as the previous pages-PR027B and PR027C, including specifically as follows:

Column (1) – Direct and Assumed Modeled Losses
These are the direct and assumed modeled losses per the first footnote. Include losses only; no loss adjustment expenses. For companies that are part of an inter-company pooling arrangement, the losses in this column should be consistent with those reported in Schedule P, i.e. losses reported in this column should be the gross losses for the pool multiplied by the company's share of the pool.

Column (2) – Net Modeled Losses
These are the net modeled losses per the footnote. Include losses only; no loss adjustment expenses.

Column (3) - Ceded Amounts Recoverable
These are the modeled losses ceded under any reinsurance contract. Include losses only, no loss adjustment expenses, and should be associated with the Net Modeled Losses.

In addition, the insurer should provide the following information about the view of climate risk used to determine the climate conditioned modeled losses under each time horizon:

- If a Climate Conditioned Catalog developed by a commercial CAT model vendor is used, provide name and version of the catalog.
- If it is internally developed by the company or developed in collaboration with external climate specialists and/or reinsurance brokers, provide a brief description of assumptions/adjustments made including the sources of climate science research used

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CALCULATION OF CATASTROPHE RISK CHARGE FOR HURRICANE PR027B

Hurricane	Reference	Modeled Losses (1) Direct and Assumed	(2) Net	3† Ceded Amounts Recoverable	(4)†† Ceded Amounts Recoverable with zero Credit Risk Charge
(1) Worst Year in 50	Company Records				
(2) Worst Year in 100	Company Records				
(3) Worst Year in 250	Company Records				
(4) Worst Year in 500	Company Records				
(5) Worst Year in 1000	**Company Records**				

	(5) Y/N
(6) Has the company reported above, its modeled hurricane losses using an occurrence exceedance probability (OEP) basis?	

	Reference	(6) Amount	Factor	(7) RBC Requirement (C(6) * Factor)
(7) Net Hurricane Risk	L(2) C(2)	0	1.000	0
(8) Contingent Credit Risk for Hurricane Risk	L(2) C(3) - C(4)	0	0.018	0
(9) Total Hurricane Catastrophe Risk (AEP Basis)	If L(6) C(5) = "N", L(9) C(6) = L(7) C(7)+ L(8) C(7), otherwise "0"	0	1.000	0
(10) Total Hurricane Catastrophe Risk (OEP Basis)	If L(6) C(5) = "Y", L(10) C(6) = L(7) C(7)+ L(8) C(7), otherwise "0"	0	1.000	0
(11) Total Hurricane Catastrophe Risk	L(9) C(7) + L(10) C(7)			0

Lines (1)-(5): Modeled losses to be entered on these lines are to be calculated using one of the following NAIC approved third party commercial vendor catastrophe models - AIR, CoreLogic, RMS, KCC, the ARA HurLoss Model, or the Florida Public Model for hurricane; or a catastrophe model that is internally developed by the insurer and has received permission of use by the lead or domestic state. The insurance company's own insured property exposure information should be used as inputs to the model(s). The insurance company may elect to use the modeled results from any one of the models, or any combination of the results of two or more of the models. Each insurer will not be required to utilize any prescribed set of modeling assumptions, but will be expected to use the same data, modeling, and assumptions that the insurer uses in its own internal catastrophe risk management process. An attestation to this effect and an explanation of the company's key assumptions and model selection may be required, and the company's catastrophe data, assumptions, model and results may be subject to examination.

† Column (3) is modeled catastrophe losses that would be ceded under reinsurance contracts. This should be associated with the Net Modeled Losses shown in Column (2).

††Column (4) is modeled catastrophe losses that would be ceded to the categories of reinsurers that are not subject to the RBC credit risk charge (i.e., U.S. affiliates and mandatory pools, whether authorized, unauthorized, or certified).

Denotes items that must be manually entered on the filing software.

CALCULATION OF CATASTROPHE RISK CHARGE FOR WILDFIRE PR027C
(For Informational Purposes Only)

Wildfire	Reference	Modeled Losses (1) Direct and Assumed	(2) Net	3† Ceded Amounts Recoverable	(4)†† Ceded Amounts Recoverable with zero Credit Risk Charge
(1) Worst Year in 50	Company Records				
(2) Worst Year in 100	Company Records				
(3) Worst Year in 250	Company Records				
(4) Worst Year in 500	Company Records				
(5) Worst Year in 1000	**Company Records**				

	(5) Y/N
(6) Has the company reported above, its modeled wildfire losses using an occurrence exceedance probability (OEP) basis?	

	Reference	(6) Amount	Factor	(7) RBC Requirement (C(6) * Factor)
(7) Net Wildfire Risk	L(2) C(2)	0	1.000	0
(8) Contingent Credit Risk for Wildfire Risk	L(2) C(3) - C(4)	0	0.018	0
(9) Total Wildfire Catastrophe Risk (AEP Basis)	If L(6) C(5) = "N", L(9) C(6) = L(7) C(7)+ L(8) C(7), otherwise "0"	0	1.000	0
(10) Total Wildfire Catastrophe Risk (OEP Basis)	If L(6) C(5) = "Y", L(10) C(6) = L(7) C(7)+ L(8) C(7), otherwise "0"	0	1.000	0
(11) Total Wildfire Catastrophe Risk	L(9) C(7) + L(10) C(7)			0

Disclosure in lieu of model-based reporting:

	(8) Direct and Assumed	(9) Net
(12) For a company qualifying for the exemption under PR027INT C (10), complete 11a through 11c below:		
a. Provide the company's gross and net 1-in-100-year wildfire losses on a best estimate basis in lieu of model-based reporting.		

b. Provide details on how the company estimated the amounts shown in 11a.

c. Provide a narrative disclosure about how the company manages its wildfire risk.

Lines (1)-(**5**): Modeled losses to be entered on these lines are to be calculated using one of the following NAIC approved third party commercial vendor catastrophe models - AIR, RMS, or KCC, or a catastrophe model that is internally developed by the insurer and has received permission of use by the lead or domestic state. The insurance company's own insured property exposure information should be used as inputs to the model(s). The insurance company may elect to use the modeled results from any one of the models, or any combination of the results of two or more of the models. Each insurer will not be required to utilize any prescribed set of modeling assumptions, but will be expected to use the same data, modeling, and assumptions that the insurer uses in its own internal catastrophe risk management process. An attestation to this effect and an explanation of the company's key assumptions and model selection may be required, and the company's catastrophe data, assumptions, model and results may be subject to examination.

† Column (3) is modeled catastrophe losses that would be ceded under reinsurance contracts. This should be associated with the Net Modeled Losses shown in Column (2).

††Column (4) is modeled catastrophe losses that would be ceded to the categories of reinsurers that are not subject to the RBC credit risk charge (i.e., U.S. affiliates and mandatory pools, whether authorized, unauthorized, or certified).

Denotes items that must be manually entered on the filing software.

DISCLOSURE OF CLIMATE CONDITIONED CAT EXPOSURE FOR HURRICANE PR027BI
(For Informational Purposes Only)

Hurricane	Reference	Climate Conditioned Modeled Losses for 2040 (1) Direct and Assumed	(2) Net	3† Ceded Amounts Recoverable
(1) Worst Year in 50	Company Records			
(2) Worst Year in 100	Company Records			
(3) Worst Year in 250	Company Records			
(4) Worst Year in 500	Company Records			
(5) Worst Year in 1000	Company Records			

View of climate risk used

(6) If a Climate Conditioned Catalog developed by a commercial CAT model vendor is used, provide name and version of the catalog

(7) If it is internally developed by the company or developed in collaboration with external climate specialists and/or reinsurance brokers, provide a brief description of assumptions/adjustments made including the sources of climate science research used:

Lines (1)-(5): Modeled losses to be entered on these lines are to be calculated using the same commercial vendor-catastrophe model, or combination of models used to calculate the CAT Risk Charge.

† Column (3) is modeled catastrophe losses that would be ceded under reinsurance contracts. This should be associated with the Net Modeled Losses shown in Column (2).

Denotes items that must be manually entered on the filing software.

DISCLOSURE OF CLIMATE CONDITIONED CAT EXPOSURE FOR HURRICANE PR027BII
(For Informational Purposes Only)

	Hurricane	Reference	Climate Conditioned Modeled Losses for 2050 (1) Direct and Assumed	(2) Net	3† Ceded Amounts Recoverable
(1)	Worst Year in 50	Company Records			
(2)	Worst Year in 100	Company Records			
(3)	Worst Year in 250	Company Records			
(4)	Worst Year in 500	Company Records			
(5)	Worst Year in 1000	Company Records			

View of climate risk used

(6) If a Climate Conditioned Catalog developed by a commercial CAT model vendor is used, provide name and version of the catalog

(7) If it is internally developed by the company or developed in collaboration with external climate specialists and/or reinsurance brokers, provide a brief description of assumptions/adjustments made including the sources of climate science research used:

Lines (1)-(5): Modeled losses to be entered on these lines are to be calculated using the same commercial vendor-catastrophe model, or combination of models used to calculate the CAT Risk Charge.

† Column (3) is modeled catastrophe losses that would be ceded under reinsurance contracts. This should be associated with the Net Modeled Losses shown in Column (2).

Denotes items that must be manually entered on the filing software.

DISCLOSURE OF CLIMATE CONDITIONED CAT EXPOSURE FOR WILDFIRE PR027CI
(For Informational Purposes Only)

Wildfire	Reference	Climate Conditioned Modeled Losses for 2040 (1) Direct and Assumed	(2) Net	3† Ceded Amounts Recoverable
(1) Worst Year in 50	Company Records			
(2) Worst Year in 100	Company Records			
(3) Worst Year in 250	Company Records			
(4) Worst Year in 500	Company Records			
(5) Worst Year in 1000	Company Records			

View of climate risk used

(6) If a Climate Conditioned Catalog developed by a commercial CAT model vendor is used, provide name and version of the catalog

(7) If it is internally developed by the company or developed in collaboration with external climate specialists and/or reinsurance brokers, provide a brief description of assumptions/adjustments made including the sources of climate science research used:

Lines (1)-(5): Modeled losses to be entered on these lines are to be calculated using the same commercial vendor catastrophe model, or combination of models used to calculate the CAT Risk Charge.

† Column (3) is modeled catastrophe losses that would be ceded under reinsurance contracts. This should be associated with the Net Modeled Losses shown in Column (2).

Denotes items that must be manually entered on the filing software.

DISCLOSURE OF CLIMATE CONDITIONED CAT EXPOSURE FOR WILDFIRE PR027CII
(For Informational Purposes Only)

Wildfire	Reference	Climate Conditioned Modeled Losses for 2050 (1) Direct and Assumed	(2) Net	3† Ceded Amounts Recoverable
(1) Worst Year in 50	Company Records			
(2) Worst Year in 100	Company Records			
(3) Worst Year in 250	Company Records			
(4) Worst Year in 500	Company Records			
(5) Worst Year in 1000	Company Records			

View of climate risk used

(6) If a Climate Conditioned Catalog developed by a commercial CAT model vendor is used, provide name and version of the catalog

(7) If it is internally developed by the company or developed in collaboration with external climate specialists and/or reinsurance brokers, provide a brief description of assumptions/adjustments made including the sources of climate science research used:

Lines (1)-(5): Modeled losses to be entered on these lines are to be calculated using the same commercial vendor catastrophe model, or combination of models used to calculate the CAT Risk Charge.

† Column (3) is modeled catastrophe losses that would be ceded under reinsurance contracts. This should be associated with the Net Modeled Losses shown in Column (2).

Denotes items that must be manually entered on the filing software.