Capital Adequacy (E) Task Force

RBC Proposal Form

[ ] Capital Adequacy (E) Task Force	[ ] Health RBC (E) Working Group	[ ] Life RBC (E) Working Group
[x] Catastrophe Risk (E) Subgroup	[ ] Investment RBC (E) Working Group	[ ] Operational Risk (E) Subgroup
[ ] C3 Phase II/ AG43 (E/A) Subgroup	[ ] P/C RBC (E) Working Group	[ ] Longevity Risk (A/E) Subgroup

	DATE: **10/27/21**	**FOR NAIC USE ONLY**
CONTACT PERSON:	**Eva Yeung**	Agenda Item # 2021-15-CR
TELEPHONE:	**816-783-8407**	Year 2022
EMAIL ADDRESS:	**eyeung@naic.org**	**DISPOSITION**
ON BEHALF OF:	**Catastrophe Risk (E) Subgroup**	[x] ADOPTED CapAd 3/28/22
NAME:	**Wanchin Chou**	[ ] REJECTED
TITLE:	**Chair**	[ ] DEFERRED TO
AFFILIATION:	**Connecticut Department of Insurance**	[ ] REFERRED TO OTHER NAIC GROUP
ADDRESS:	**153 Market Street, 7th Floor**	[x] EXPOSED 10/27/21
	Hartford, CT 06103	[ ] OTHER (SPECIFY)

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

[ ] Health RBC Blanks	[x] Property/Casualty RBC Blanks	[ ] Life and Fraternal RBC Instructions
[ ] Health RBC Instructions	[x] Property/Casualty RBC Instructions	[ ] Life and Fraternal RBC Blanks
[ ] OTHER ___________________________		

DESCRIPTION OF CHANGE(S)

The proposed change would add the KCC as one of the approved third party commercial vendor catastrophe models.

REASON OR JUSTIFICATION FOR CHANGE **

To keep the consistency with other third party commercial vendors for earthquake and hurricane catastrophe models. KCC has got the approval from the Florida Commission on hurricane loss projection methodology on 6/19/2019 and 6/4/2021.

Additional Staff Comments:

10/27/21 – The Subgroup agreed to expose this proposal for a 30-day public comment period ending Nov. 26.
03/22/22 – The Subgroup adopted the proposal.
03/23/22 – The P/C RBC Working Group adopted the proposal.
03/28/22 – Capital Adequacy (E) Task Force adopted the proposal.

**** This section must be completed on all forms.** **Revised 2-2019**

CALCULATION OF CATASTROPHE RISK CHARGE RCAT
PR027

Detail Eliminated To Conserve Space

The projected losses can be modeled using 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, as well as catastrophe models that are internally developed by the insurer or that are the result of adjustments made by the insurer to vendor models to represent the own view of catastrophe risk (hereinafter “own models”).

However, an insurer seeking to use an own model must first obtain written permission to do so by the domestic or lead state insurance regulator. In the situation where the model output is used to determine the catastrophe risk capital requirement for a single entity, the regulator granting permission to use the own model is the domestic state. In the situation where the model output is used to determine the catastrophe risk capital requirement for a group, the grantor is the lead state regulator. In the situation where the insurer seeking permission is a non-U.S. insurer, the grantor shall be the lead state regulator. Under all scenarios, the regulator that is granting permission should inform other domestic states that have a catastrophe risk exposure and share the results of the review.

To obtain permission to use the own model, the insurer must provide the domestic or lead state insurance regulator with written evidence of each of the following:

1. The use of the own model is reasonable considering the nature, scale, and complexity of the insurer’s catastrophe risk;
2. The own model is used for catastrophe risk management, capital assessment, and the capital allocation process and the model has been used for at least the last 3 years;
3. The perils included in the RBC Catastrophe Risk Charge have been validated by the insurer and that these perils include both US and global exposures, where applicable;
4. The own model has been developed using reasonable data and assumptions and that model results used in determining the RBC Catastrophe Risk Charge reflect exposure data that is no older than six months;
5. The insurer has individuals with experience in developing, testing and validating internal models or engages third parties with such experience. The insurer must provide supporting model documentation and a copy of the latest validation report and the insurer is solely responsible for the relevant cost. For each peril included in the RBC Catastrophe Risk Charge, the validation report should attest that the projected losses are a reasonable quantification of the exposure of the reporting entity. The validation report must provide a description of the scope, content, results and limitations of the validation, the individual qualifications of validation team and the date of the validation. Both the model documentation and the model validation report must be provided at a minimum once every five years, or whenever the lead or domestic state calls an examination; whenever there is a material change in the model; or whenever there is a material change in the insurer’s exposure to catastrophe exposure.
6. The results of the own model should be compared with the results produced by at least one of the following models: AIR, CoreLogic, RMS, KCC, ARA HurLoss, or the Florida Public Model. The insurer must provide the comparison and an explanation of the drivers of differences between the results produced by the internal model vs. results produced by the selected prescribed model.
7. If the own model has been approved or accepted by the non-U.S. group-wide supervisor for use in the determination of regulatory capital, the insurer must submit evidence, if available, from the non-US group-wide supervisor of the most recent approval/acceptance including the description of scope, content, results and limitations of the approval/acceptance process and dates of any planned future approval/acceptance, if known. The name and the contact information of a contact person at the non-US group-wide supervisor should also be provided for questions on the approval/acceptance process.

If the lead or domestic state determines that permission to use the own model cannot be granted, the insurer shall be required to determine the RBC Catastrophe Risk Charge through the use of one of the third party commercial vendor models (AIR, CoreLogic, RMS, KCC, ARA HurLoss (hurricane only)), or the Florida Public Model for hurricane, as advised by the lead state or domestic state.

If the lead or domestic state determines that permission to use the own model can be granted to determine the RBC Catastrophe Risk Charge, the model will be subject to additional review through the ongoing examination process. If, as a result of the examination, the lead or domestic state determines that permission to use the own model should be revoked, the insurer may be required to resubmit the risk-based capital filing and any past filings so impacted where own model was used, as directed by the lead state or domestic state.
If the insurer obtains permission to use the own model, it cannot revert back to using third party commercial vendor models to determine the RBC Catastrophe Risk Charge in subsequent reporting periods, unless this is agreed with the lead or domestic state that granted permission.

The contingent credit risk charge should be calculated in a manner consistent with the way the company internally evaluates and manages its modeled net catastrophe risk.

Note that no tax effect offsets or reinstatement premiums should be included in the modeled losses. Further note that the catastrophe risk charge is for earthquake and hurricane risks only.

As per the footnote on this page, modeled losses to be entered PR027A and PR027B in Lines (1) through (4) are to be calculated using one of the third party commercial vendor models – AIR, Corelogic, RMS, KCC, ARA HurLoss (hurricane only); or the Florida Public Model (hurricane only) or the insurer's own catastrophe model; and using the insurance company's own insured property exposure information as inputs to the model. The insurance company may elect to use the modeled results from any one of the models, or any combination of 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 exposure data, modeling, and assumptions that the insurer uses in its own internal catastrophe risk management process. Any exceptions must be explained in the required *Attestation Re: Catastrophe Modeling Used in RBC Catastrophe Risk Charges* within this RBC Report.

The Grand Total (PR027) page includes an interrogatory to support an exemption from filing the catastrophe risk charge. Any company qualifying for exemption from the earthquake risk charge must identify the particular criteria from among (1a), (1b), (2) and (3) that provides its qualification for exemption, and may leave the other three items from this group of four possible qualifications for exemption blank; except identification of criteria (3) as the basis for the exemption requires a further answer to (3a) and (3b).). If an insurer does not write or assume earthquake risks leaving no gross exposure, enter an "X" in interrogatory 3, with no need to fill in (3a) and (3b). Any company qualifying for exemption from the hurricane risk charge must identify the particular criteria from among (4a), (4b), (5) and (6) that provides its qualification for exemption, and may leave the other three items from this second group of four possible qualifications for exemption blank. If the company qualifies for exemption from the earthquake risk charge, page PR027A and line (1) on this page may be left blank. If the company qualifies for exemption from the hurricane risk charge, page PR027B and line (2) on this page may be left blank. If an insurer does not write or assume hurricane risks leaving no gross exposure, enter an "X" in interrogatory 6.

In general, the following conditions will qualify a company for exemption: if it uses an intercompany pooling arrangement or quota share arrangement with U.S. affiliates covering 100% of its earthquake and hurricane risks such that there is no exposure for these risks; if it has a ratio of Insured Value – Property to surplus as regards policyholders of less than 50%; or if it writes Insured Value – Property that includes hurricane and/or earthquake coverage in catastrophe-prone areas representing less than 10% of its surplus as regards policyholders.

"Insured Value – Property" includes aggregate policy limits for structures and contents for policies written and assumed in the following annual statement lines – Fire, Allied Lines, Earthquake, Farmowners, Homeowners, and Commercial Multi-Peril.

"Catastrophe-Prone Areas in the U.S." include:

i. For hurricane risks, Hawaii, District of Columbia and states and commonwealths bordering on the Atlantic Ocean and/or the Gulf of Mexico including Puerto Rico.
ii. For earthquake risk or for fire following earthquake, any of the following commonwealth or states: Alaska, Hawaii, Washington, Oregon, California, Idaho, Nevada, Utah, Arizona, Montana, Wyoming, Colorado, New Mexico, Puerto Rico, and geographic areas in the following states that are in the New Madrid Seismic Zone - Missouri, Arkansas, Mississippi, Tennessee, Illinois and Kentucky.

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CALCULATION OF CATASTROPHE RISK CHARGE FOR EARTHQUAKE PR027A

	Earthquake	Reference	(1) Direct and Assumed	(2) Net	3† Ceded Amounts Recoverable	(4)†† Ceded Amounts Recoverable with zero Credit Risk Charge
			Modeled Losses			
(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) Y/N
(5)	Has the company reported above, its modeled earthquake losses using an occurrence exceedance probability (OEP) basis?	

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

Lines (1)-(4): 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, **or 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 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) Y/N
(5)	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)
(6)	Net Hurricane Risk	L(2) C(2)	0	1.000	0
(7)	Contingent Credit Risk for Hurricane Risk	L(2) C(3) - C(4)	0	**0.018**	0
(8)	Total Hurricane Catastrophe Risk (AEP Basis)	If L(5) C(5) = "N", L(8) C(6) = L(6) C(7)+ L(7) C(7), otherwise "0"	0	1.000	0
(9)	Total Hurricane Catastrophe Risk (OEP Basis)	If L(5) C(5) = "Y", L(9) C(6) = L(6) C(7)+ L(7) C(7), otherwise "0"	0	1.000	0
(10)	Total Hurricane Catastrophe Risk	L(8) C(7) + L(9) C(7)			0

Lines (1)-(4): 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.