

SFG-NW-7

**State Farm General Insurance Company
California Rental Dwelling
Catastrophe Adjustment Excluding Fire Following Earthquake Provision**

In accordance with CCR §2644.5, we have developed a catastrophe adjustment factor based on at least 20 years of catastrophe data as described in this exhibit. Losses are coded as "catastrophe" if they result from a single event that is expected to produce at least 500 claims and \$500,000 in anticipated indemnity payments within the state of California for all Fire lines or if the claim is a wildfire designated claim. The inclusion of all wildfire designated claims allows a more holistic view of the wildfire risk and provides additional stability to our non-catasrophe trends and development.

For ratemaking purposes, all catastrophe (CAT) losses are removed from our loss data. CAT losses are analyzed separately and a CAT provision is developed according to the following procedure and used in the ratemaking formula.

I. Amount of Insurance Years Exposure Base

The Amount of Insurance Years statistic (AIY) measures \$1,000's of building insurance in force for one year. For example, a \$100,000 dwelling insured on January 1st and in force continuously for that year equals 100 Amount of Insurance Years. Amount of Insurance Years reflects changing values and represents an accurate measure of our exposure to catastrophic loss.

II. Catastrophe Provision per AIY (Excluding Fire Following Earthquake)

Because catastrophes can be infrequent events, many years of history are needed to determine a provision. Contract changes and changes in the number of policies written in catastrophe prone areas, however, make it prudent to give greater weight to more recent years. Please see Exhibit 9 - Page 2 for the development of the CAT/AIY.

	Rental Dwelling
CAT Provision per AIY excluding FFEQ	<hr/> 0.2120

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(1) Calendar Year	(2) AIY	(3) CAT Loss & DCCE	(4) CAT/AIY (3) / (2)	(5) Weight	(6) NCAT Loss & DCCE
1990	22,674,567	7,193,778	0.317	1.7%	41,350,630
1991	25,415,224	15,364,567	0.605	1.7%	35,766,780
1992	28,631,903	12,311,016	0.430	1.7%	44,060,472
1993	31,821,709	7,631,672	0.240	1.7%	46,062,025
1994	34,000,922	5,975,719	0.176	1.7%	52,500,937
1995	34,747,387	11,969,905	0.344	1.7%	52,419,527
1996	34,789,432	5,916,892	0.170	1.7%	43,403,404
1997	36,135,263	5,124,708	0.142	1.7%	45,674,997
1998	36,516,349	7,047,289	0.193	1.7%	53,178,235
1999	36,509,634	2,068,944	0.057	1.7%	52,447,544
2000	36,947,142	1,852,558	0.050	1.8%	47,427,799
2001	37,940,589	2,703,005	0.071	1.9%	72,556,550
2002	39,854,327	4,725,556	0.119	2.0%	66,955,979
2003	38,943,571	38,672,476	0.993	2.1%	57,369,497
2004	41,551,817	-12,605,326	-0.303	2.2%	46,082,257
2005	46,549,450	2,173,907	0.047	2.3%	50,284,716
2006	51,465,146	2,939,394	0.057	2.4%	53,129,793
2007	56,179,293	18,500,877	0.329	2.6%	68,746,644
2008	61,255,516	10,406,983	0.170	2.7%	71,786,208
2009	67,447,235	1,526,712	0.023	2.9%	66,326,081
2010	70,033,008	11,701,910	0.167	3.0%	64,948,167
2011	72,738,661	6,466,403	0.089	3.2%	76,192,187
2012	76,332,961	7,120,235	0.093	3.3%	73,855,818
2013	79,997,174	7,905,555	0.099	3.5%	69,330,515
2014	82,981,087	10,162,235	0.122	3.7%	70,634,241
2015	86,382,064	19,166,165	0.222	3.9%	76,994,615
2016	88,715,400	2,650,351	0.030	4.1%	95,876,883
2017	91,050,800	252,346,381	2.771	4.3%	84,145,974
2018	94,493,625	-7,150,149	-0.076	4.5%	88,460,829
2019	101,254,925	-11,779,396	-0.116	4.8%	84,834,244
2020	107,998,179	-40,601,238	-0.376	5.0%	88,479,882
2021	116,683,236	-3,603,719	-0.031	5.3%	115,468,425
2022	127,684,157	6,823,488	0.053	5.6%	144,080,588
2023	135,563,744	22,709,526	0.168	5.9%	133,711,609

Catastrophe Ratio (Column (4) weighted by Column (5)): 0.2120

(3) Non-Hurricane Catastrophe Loss and DCCE net of subrogation. Adjustments have been made as needed to incorporate any significant changes in our contract and in the distribution of our book of business.

(5) The latest year is given a weight of 5.9%, with each prior year receiving 5% less weight back to 2000. For the years 1990-99, the remainder of the distribution was spread evenly across the 10 year period.

(6) Non-Catastrophe Loss and DCCE net of subrogation. Adjustments have been made as needed to incorporate any significant changes in our contract and in the distribution of our book of business.

The total outstanding California catastrophe reserves as of 12/31/2023 is \$12,206,466 for the Rental Dwelling program.

**State Farm General Insurance Company
California Rental Dwelling
Catastrophe Provision
Fire Following Earthquake Provision**

State Farm's Rental Dwelling Catastrophe Provision calculation described in the preceding pages is based on a statistical analysis of historical catastrophe losses. There is exposure to loss due to fire following an earthquake that is not reflected in this historical experience. Any catastrophe provision based on historical data should be modified to more appropriately recognize the Rental Dwelling exposure due to fire following an earthquake.

Provision for Fire Following Earthquake

Fire conflagrations following earthquakes, as evidenced by the 1923 Great Kanto Earthquake and the 1906 San Francisco Earthquake, can cause enormous property damage and loss of life. The major 1989 Bay area earthquake and the 1994 Northridge earthquake were not of the magnitude expected to produce a catastrophic conflagration. Fortunately, neither occurred during extreme fire conditions. In California, not since the San Francisco earthquake of 1906 has there been a great earthquake of the magnitude expected to produce a catastrophic conflagration. It is, therefore, inappropriate to rely solely on historical insurance data to assess the exposure to fire following earthquake. It is necessary to look to definitive scientific studies, scientific modeling and judgment to supplement historical data.

I. Fire Following Earthquake: Conflagration Potential in the Greater Los Angeles, San Francisco, Seattle and Memphis Areas

This study, produced by Drs. Charles Scawthorne and Mahmoud Khater for the Earthquake Project (subsequently known as the Natural Disaster Coalition), utilizes the expertise of EQECAT, Inc. to produce estimates of fire following earthquakes of various magnitudes in the San Francisco and Los Angeles areas of California.

From the Executive Summary of that report:

Fire following earthquake is a very serious threat to insurance companies. The fire losses shown in this study are substantially higher than the insured shake damage losses projected in a 1990 California Insurance Department study (\$6 billion for insured shake damage in the San Francisco Bay area, \$8.5 billion for insured shake damage in the Los Angeles region). The reason for this is that nearly all property is insured for fire, but fewer than 20% of homes and business properties in the two affected areas are insured for shake damage, even though California law requires insurers to offer shake damage to property owners.

The report summarizes property loss in a Bay Area quake to be 1.1% of property value, .2 to .6% for other California faults. The summary includes all property loss, personal and commercial as well as insured and uninsured. Personal and commercial splits are not available in the report. The report, therefore, is only used to illustrate the magnitude of the exposure.

II. Computer Modeling for Fire Following Earthquake

State Farm is utilizing the earthquake simulation models from CoreLogic RQE v23.0, RMS RiskLink 23.0 and AIR Touchstone 10.0 to provide annual fire following earthquake property loss estimates. The RQE model is used by the CEA for earthquake loss estimates in pricing. The RQE model as well as RMS and AIR incorporate expertise in the fields of engineering, seismology, geology, statistics and computer science to produce a library of earthquake events, each with associated probabilities of occurrence. This library is intended to represent tens of thousands of years of possible earthquakes. For AIR, the 50K year event set was used in the analysis.

For each of these stochastically simulated events, the models are capable of overlaying the physical characteristics of the event against the portfolio of the insured exposures. Such exposures are described by geographic locations, values, policy forms (types of coverage), limits, deductibles and construction characteristics, and are related to the models' computed seismic activity, associated damage, and accompanying financial losses. To compute the expected annual loss, the losses from each simulated event are then weighted by the probability of that event's occurrence.

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Given the large volume of simulated events and the fact that theoretically all relevant available information has been taken into account in the model simulations, the model results are considered fully credible.

Shaking intensity is the basis of estimating fire following earthquake losses. In addition to shaking intensity, all three fire following earthquake models estimate severity and frequency of loss based on the underlying physical parameters that impact the loss. Additional loss factors include:

1. Ignition Frequency: Conflagration risk increases with the number of ignitions.
2. Fuel Source: Wooden structures greatly increase the fire risk, for a given ignition frequency (1906 and 1923 events had predominantly wooden construction).
3. Burn Rate: The rate at which a fire spreads is dependent on the fuel source and building density.
4. Fire Fighting Capacity: The model estimates the potential fire fighting capacity, including number of fire stations, fire engines and manpower.
5. Water supply vulnerability: Even with adequate fire fighting capacity, failed water supply systems will imperil fire department functionality. The network based model includes water supply vulnerability (pipeline breaks), including storage reservoirs, and alternate (redundant) waterline routes.
6. Wind speed: Strong winds can dramatically increase fire severity, as evidenced by the 1923 Kanto and the 1991 Oakland Hills fire. Therefore, the variance in local wind speeds is essential in estimating the frequency and event severity.
7. Seasonality: Wet or dry weather conditions can retard or contribute to the fire loss.

III. Fire Following Earthquake Provision

State Farm General Insurance Company's fire exposure as of 9/30/2023 is used for the simulations to determine the annual fire following earthquake loss per AIY for each model. The statewide annual fire following earthquake loss per AIY provision is the simple average of the results from the three models. This loss per AIY is adjusted to reflect defense and cost containment expense (DCCE) since this cost is not included in the models' results. The DCCE provision of 4.4% is selected, resulting in the final Fire Following Earthquake provisions shown below.

	Rental Dwelling
RQE Model Loss per AIY	0.0168
RMS Model Loss per AIY	0.0454
AIR Model Loss per AIY	0.0244
Average	0.0289
DCCE factor	1.0440
FFEQ Provision per AIY	0.0301

State Farm General Insurance Company
California Rental Dwelling
Catastrophe Adjustment

	Fiscal Calendar/Accident Year Ending 20224	Fiscal Calendar/Accident Year Ending 20234
(1) NC Loss + DCCE developed and trended	194,929,562	156,626,368
(2) CAT Provision per AIY excluding FFEQ	0.2120	0.2120
(3) FFEQ Provision per AIY	0.0301	0.0301
(4) CAT Provision per AIY including FFEQ	0.2422	0.2422
(5) Projected AIY	169,425,754	165,942,140
(6) CAT Provision Dollars	41,026,943	40,183,376
(7) CAT Provision to NC Loss + DCCE	0.210	0.257
(8) Catastrophe Adjustment Factor incl FFEQ	1.210	1.257

- (1) (Historic Losses x To-Ult Factor (Exhibit 7) x Loss & DCCE Trend Factor (Exhibit 8))
+ (Historic DCCE x To-Ult Factor (Exhibit 7) x Loss & DCCE Trend Factor (Exhibit 8))
(2) Exhibit 9 - Page 1
(3) Exhibit 9 - Page 4
(4) = (2) + (3)
(5) See calculation below
(6) = (4) x (5)
(7) = (6) / (1)
(8) = (7) + 1

	Fiscal Calendar Year Ending 20224	Fiscal Calendar Year Ending 20234
AIY	127,684,157	135,563,744
Projected Annual AIY Trend	8.4%	8.4%
Trend Date	7/1/2022	7/1/2023
Projection Date	1/1/2026	1/1/2026
Years Trended	3.507	2.507
Factor	1.327	1.224
Projected AIY	169,425,754	165,942,140

**State Farm General Insurance Company
California Rental Dwelling
Catastrophe Subrogation Recoveries**

Calendar Year	Recoveries*
2004	36,836
2005	31,415
2006	1,195
2007	-
2008	-
2009	4,162,127
2010	15,843
2011	66,472
2012	(15,247)
2013	113,938
2014	(45)
2015	13,305
2016	1,046
2017	1,261,700
2018	400,078
2019	65,831
2020	75,531,433
2021	24,399,486
2022	4,327,924
2023	1,945,278

* Subrogation data prior to 2004 is not readily available

**State Farm General Insurance Company
California Rental Dwelling
Major Catastrophe Events**

Year	Event Name	Associated Peril(s)
1991	Oakland Hills Wildfire	Fire
2003	Simi/Cedar/Oak Wildfires	Fire
2017	Tubbs/Northern Wildfire	Fire
2018	Camp Wildfire	Fire
2018	Woolsey Wildfire	Fire
2020	August 2020 Wildfires	Fire