



April 22, 2019

The Honorable Carla Peterman and Commissioners
Chair, Commission on Catastrophic Wildfire Cost and Recovery
Governor's Office of Planning and Research
Sacramento, CA 95814

Re: Commission on Catastrophic Wildfire Cost and Recovery Request for Comments – April 2019

Dear Chair Peterman and Commissioners:

AIR Worldwide (AIR) would like to express our support for efforts by the Commission on Catastrophic Wildfire Cost and Recovery (the Commission) and the Governor's Office to resolve pressing wildfire-related challenges in the State of California. We believe increasing the resilience of the utility industry and insurance market to natural catastrophe (cat) risk will benefit residents and businesses in the State of California. In response to the Commission's Request for Comment, AIR offers the use case for catastrophe models in both of the Commission's questions about insurance by giving the background for these tools and addressing their usefulness in managing risk.

Background

Natural disasters are unpredictable, unexpected, and often present economic and policy challenges in their aftermath; however, natural disasters develop from generally well-understood phenomena, and there is sound basis for managing natural disaster risk probabilistically, using scientific, engineering, and mathematical models. For this reason, catastrophe modeling emerged more than 30 years ago as a key component in the way insurers manage risk; AIR pioneered the catastrophe modeling industry by developing our first hurricane model in 1987. Since then, AIR has been serving the insurance industry and the public sector by providing probabilistic models, software, and services that enable companies to better manage their risk from natural catastrophes, terrorism, cyber incidents, and pandemics.

Catastrophe models allow the market to operate efficiently by creating a common means of understanding and transferring risk. Today, catastrophe models are used throughout the entire insurance value chain, and the modeled results are regarded as the "currency" for catastrophe risk transfer. The ability to quantify the range of loss potential from any contractual obligation—for example, a reinsurance contract, homeowner insurance policy, or insurance linked security—is a precondition for entities managing their risk through mitigation, loss reserving, and risk transfer.

Historical Experience Is Not Enough

In the case of rare but severe catastrophe events, including wildfires, highly variable historical experience provides an insufficient basis to assess future loss potential. Losses from historical wildfires do not necessarily reflect loss potential today because the built environment (i.e., the homes, buildings, streets, open spaces, etc., that comprise where people live and work) changes, building codes improve, and loss mitigation strategies evolve. In addition, a limited sample of recent experience (e.g., 20 years) is insufficient to capture the full range of events that could occur but have not been experienced. AIR models simulate realistic catastrophe events, relying on scientific and engineering data, and the

methodologies used in those respective research fields, to develop a range of scenarios to augment the loss experience from historical catastrophes. For these simulated events, the model estimates damage to and losses at specific locations, collections of assets, or the industry as a whole based on the current built environment.

Models offer large catalogs of simulated events, e.g., an event catalog of 10,000 simulations of what could happen next year for the U.S. Wildfire Model, effectively extending the available loss experience from a few decades of experience. Each stochastic year in the U.S. Wildfire Model's event catalog represents a scientifically credible simulation of a year's wildfire catastrophe activity. Access to potential loss experience under today's environmental conditions and from the full range of what-if scenarios allows any company exposed to wildfire risk to estimate the long-term level of their exposure, and thereby effectively manage and hedge against potential shocks to their financial stability from catastrophe events that have not yet occurred but are scientifically plausible.

Current Use of Cat Models

There is no doubt that 2017 and 2018 were significant, catastrophic wildfire years for the State of California. Although the destruction and losses experienced by the local communities were unprecedented, communities in states such as Florida, Louisiana, and Texas, to name just a few, have had similar experiences from other catastrophes in the recent past

For example, Hurricane Andrew in 1992 caused record-breaking losses exceeding \$15 billion (in 1992 dollars). Losses at this scale were a shock to the insurance market, and not only challenged the insurance industry but also caused significant social and economic impacts. For a period, Florida residents and businesses were left unable to obtain insurance.

To address these market problems, the State of Florida created the Florida Hurricane Catastrophe Fund to support the insurance market, and passed statutory language allowing companies to use U.S. hurricane catastrophe models to price and manage their risk. Combined with other efforts, Florida succeeded in reviving their insurance market and stabilizing it from both affordability and availability perspectives. More recently, allowing the flood cat models to be used for risk management has been a strong encouragement to developing the private flood insurance market. In addition to such regulatory action, rating agencies explicitly look to insurers to use catastrophe models in their enterprise risk management process.

AIR Comments

Given our unique role throughout the insurance value chain, we believe it is important for AIR to provide objective and scientifically based loss estimates to all stakeholders. Leveraging our experiences in the insurance industry, we have the following recommendations to the Commission regarding the second question, Insurance, in the latest Request for Comment:

- a. What actions can improve utility access to affordable wildfire liability insurance?
- b. What actions can ensure that local governments, homeowners, and businesses are adequately insured for wildfire loss? What actions can improve availability and affordability of homeowner's and commercial insurance?

A key component in both questions is a recognition that the risk must be measured to be managed. Companies should be able to use the most relevant tools available to develop actuarially sound rates when providing insurance to a homeowner, business, utility company, or government entity. There should be consistency between those rates and the metrics underlying risk transfer to the reinsurance and capital markets. Insurance-linked securities, in particular, offer a significant source of risk transfer funding, and investors in this market have demonstrated an appetite for wildfire risk. In the last few years, multiple cat bonds that include wildfire risk have been placed into the market, supported by analytics provided by catastrophe models.

Currently, the State of California's insurance regulations reflect a dated understanding of analytical tools such as catastrophe models and introduce an inconsistency between various underwriting and rating activities of insurers and the related downstream assumption of risk by other entities. We recommend an approach that considers the full range of risk management tools, recognizing that this can be done while still protecting consumer rights, as is the case in many other states.

In summary, AIR supports a healthy insurance market as a necessary condition to any solution. We believe fundamentally that insurance availability rests in part on an adequate and granular understanding of the risk from natural catastrophes provided by catastrophe models and other similar analytical tools.

Thank you for your consideration of our recommendations. We would very much welcome an opportunity to discuss our comments with the Commission.

Sincerely,



Roger Grenier, Ph.D.
Senior Vice President, Global Resilience Practice Leader

