



STATEMENT

TESTIMONY

OF

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**FEDERAL DISASTER ASSISTANCE
BUDGETING: ARE WE WEATHER-READY?**

BEFORE

**UNITED STATES SENATE COMMITTEE
ON APPROPRIATIONS
SUBCOMMITTEE ON FINANCIAL SERVICES
AND GENERAL GOVERNMENT**

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I am Franklin Nutter, President of the Reinsurance Association of America (RAA). Thank you for the opportunity to testify at this hearing on “Federal Disaster Assistance Budgeting: Are we Weather-Ready?”

Reinsurance is essentially the insurance of insurance companies. It serves a variety of purposes in the financial structure of insurance companies, but perhaps the most relevant to this hearing is the financing of risk for severe and infrequent natural and man-made catastrophes. Reinsurers have borne significant shares of insured losses from many major catastrophic events including 55% of September 11 losses, 33% of Hurricane Katrina, Rita and Wilma, 40% of the recent Japanese earthquake and tsunami, and 33% of the recent Midwest tornadoes.

We share the Committee’s concern that an increase in severe weather events requires a more forward looking and proactive approach to financing recovery from disasters. Attached to this testimony are a series of slides showing a clear increase in the number and financial impact of US and non US natural catastrophes including geophysical (earthquake), climatological (extreme temperature, drought, wildfire), hydrological (flood) and meteorological (winter and thunder storms and related hurricanes and tornadoes) events. Much of this increase can be attributed to changes in weather intensity and climate-related impacts. However, the fundamental driver is the increase in the number of people living in areas vulnerable to catastrophic storms, the increase in property values in these high risk areas, and the vulnerability of construction materials and technology. The reality is that our society has moved increasingly to areas with the greatest exposure to natural catastrophes along our coasts and rivers and invaded the natural landscape in areas susceptible to wildfire and drought. Where these areas once served as natural habitats to wildlife and buffers from natural hazards, they are now populated with communities and infrastructure.

The Committee asked that I address how insurers prepare and evaluate this changing risk landscape and how that might be applied in the public sector. Indeed the Federal government has much the same insured exposure through the National Flood Insurance Program (NFIP)—with 5.5 million homes insured—and the Federal Crop Insurance Program. The Federal government has the additional burden of disaster assistance following catastrophic events and appears to rely primarily on post event appropriations. No one can reliably predict specific weather events more than a few days in advance and there is no reliable prediction for earthquakes. That does not preclude, however, financial planning for the likelihood of these events or for reliance on the scientific community to assess future conditions that can be used to make decisions about appropriate policy matters. Support of the work of the National Science Foundation and NOAA remain an important part of assessing risk from natural forces. The private sector benefits immensely from funded research programs by these institutions.

The insurance industry believes that long term solutions to hazard reduction should be driven by mitigation and adaptation strategies. Federal incentives for improved natural hazard building codes, improved financing for mitigation and relocation of repetitive loss properties in the NFIP, better preservation of natural habitats that serve as protective areas for property and people should all be included in the government’s portfolio of approaches for minimizing the economic consequences of natural disasters—many of which are ultimately borne by U. S. taxpayers. The insurance industry also funds research to address building features and styles that can

significantly reduce damage to property. The Institute for Building and Home Safety recently opened a new research facility which replicates natural hazards (hurricanes, thunderstorms, hail, wildfire) and their impact on residential and commercial structures. Its research will lead to improved building and community resilience.

The traditional insurance model applied to automobiles, workers compensation and homes as it relates to non-natural peril insurance coverage's is largely an actuarial one: a pool of data of actual losses trended forward using economic factors such as cost of living adjustments and inflation. Insurers then seek to collect a premium from an insured based on this analysis not knowing of course whether any specific insured property would suffer damage, but predicting reasonably well what the likely loss experience of the pool of insureds would be over a period of time.

Insurers rely primarily on three interrelated approaches for financial protection from severe and infrequent events:

***Actuarially driven pricing that reflects actual risk assessment.** Unfortunately, the National Flood Insurance Program (NFIP) reports that it subsidizes about 25% of its properties, that 1% of the properties account for 30% of the losses as repetitive loss properties and then relies on borrowing from the US Treasury for funding shortfalls. The Program is \$18 billion in debt to the Treasury at this time.

***Diversification** of the portfolio of insured properties geographically and by line of insurance.

***Utilization of reinsurance** to transfer risk beyond what the insurer wishes to retain. NFIP legislation recently passed by the House authorizes the Program to purchase reinsurance rather than rely exclusively on Federal debt. The Crop Insurance Program is already a public private partnership.

Given the enormous recent losses of property and people to natural events, the insurance industry in recent years has modified its approach to assessing and pricing catastrophe risk. After Hurricane Andrew in 1992, it was clearly obvious that a retrospective loss business model as described above was inadequate, and indeed, misleading for catastrophic events, particularly if a changing pattern of weather and climate were developing. Assessing risk by applying historical loss events over current insured properties leads to an underestimation of potential losses. To address this dilemma, probabilistic models were developed to assess the financial impact of catastrophic natural hazards simulating possible future events over long periods of time to produce a representative loss scenario. As it has become standard practice for insurers and reinsurers, I recommend this approach to the Committee as a means to plan for future funding needs related to natural catastrophes.

These catastrophe models are provided to subscribers by several firms whom I have identified in the appendix and in some cases by reinsurers and reinsurance brokers. The models operate on the following principles:

***The hazard component**, populated by teams of scientists (meteorologists, seismologists, geophysicists and hydrologists) creates a catalog of thousands of potential computer simulated catastrophes and applies the intensity of an event at specific locations.

***The engineering component** consists of detailed information about the properties exposed to these events in specific locations or regions (including location data and building characteristics).

***The financial component** provides information about potential losses for individual properties or groups of properties and applies a probability of loss.

These models allow users to assess the impact and severity of future loss scenarios, analyze the effects of changes in conditions or proposed changes in hazard mitigation (e.g. building codes, structural changes to properties), assess adaptation scenarios and determine the appropriate pre-funding needs. In the latter case that would apply to insurance premiums, or in the case of the government, to pre-funding disaster assistance needs. These models are routinely updated to reflect new scientific or local infrastructure and building information. Some of these models have been applied to pandemics, terrorism-related events and climate change as well.

Mr. Chairman, on behalf of the Reinsurance Association of America, we look forward to exploring the risk management and financing techniques currently in practice in the reinsurance industry to determine how the government can improve its financial planning needs related to manmade and natural catastrophes.