

Appendix 9 -- Hurricane Resistance Grading(s) for Residential Property¹

Despite the evidence on the effectiveness of mitigation and the outreach by the Institute for Business and Home Safety (IBHS, www.ibhs.org) and the Federal Alliance for Safe Homes (FLASH, www.Flash.org), one of the primary challenges facing a long-term solution is the ability to make this information part of the economic decision making process by builders and consumers. A competitive market requires an informed consumer.

The concept of a building grading program or certification process was discussed at several Task Force meetings. Assigning a hurricane resistance grade or certification to a property at the time of construction or resale could enable the purchaser to make a more informed choice regarding an investment decision in a property. When combined with the mitigation credits, checklists, and other educational initiatives offered in SB 1486, the hurricane resistance of a structure would become an integral part of the purchase decision.

This concept has been implemented, at least to a degree, in Japan with respect to the earthquake exposure of residential properties. A public policy decision to make earthquake insurance [the program is actually for damage compensation; a form of insurance² widely available and used in Japan began in 1964 following the Niigata Earthquake. Today, in Japan there is a functioning public/private partnership between the Japanese property insurance industry, offering the policies, and the Japanese government, providing a form of reinsurance backstop. The system was revised in 1980 to further encourage participation by mandating that earthquake insurance be included on residential policies on a mandatory offer basis; the consumer may decline coverage. The most recent revision to the earthquake insurance system came as a result of the Hyogoken-Nanbu earthquake in 1995, which resulted in 70,000 claims totaling over ¥70 billion and triggered the first government reinsurance program payout. In the aftermath of this earthquake the earthquake insurance program was modified to provide economic incentives to encourage the building of earthquake resistant residences. This was done by introducing discounted premium rates based on a building's earthquake resistance with discounts based on a housing performance indication system under Japan's Housing Quality Guarantee Law.

¹ The included information and data are drawn from Tsubokawa, Hiroaki, "Japan's Earthquake Insurance System," *Journal of Japan Association for Earthquake Engineering*, Vol. 4, No. 3 (Special Issue), 2004.

² The material from the Japanese authorities makes it clear the program is not "true insurance," rather it is a compensation system as there is no pretense of fully compensating the total cost of the damage sustained from an earthquake – at least not under the EI program itself

Under the current, voluntary system, premium rates for earthquake insurance are a function of the geographic region where the property is located, the construction of the residence, and the hurricane resistance grade identified above. Using data from 2004, for example, the base premium rates are determined by construction and location as:

Zone	Non-Wooden Structure	Wooden Structure
1	¥0.50	¥1.20
2	¥0.70	¥1.65
3	¥1.35	¥2.35
4	¥1.75	¥3.55

Note: Rates are per ¥1,000 insured value.

Based on the historical earthquake record in Japan, the nation is divided into 4 zones based on the resulting earthquake risk. Base premium rates are then determined for each zone based upon whether or not the home is a wooden structure. As a result of changes in the building code implemented in 1980, an automatic 10% discount is given for homes built after 1981. Further discounts based on the type of earthquake resistance provided with discounts ranging from 10 to 30% based on a 3-class system, defined in 2004 as:

- Class 3 (sufficient earthquake resistance to prevent destruction or a collapse by a force 1.5 times the seismic force indicated in the Building Standards Law), 30%,
- Class 2 (sufficient earthquake resistance to prevent destruction or a collapse by a force 1.25 times the seismic force indicated in the Building Standards Law), 20%, and
- Class 1 (sufficient earthquake resistance to prevent destruction or a collapse by the seismic force indicated in the Building Standards Law), 10%.

There are significant differences between the US insurance contract and the Japanese earthquake system. Primarily, the focus of the Japanese system is not on indemnity, but rather on economic recovery; to that end, much like the National Flood Insurance Program, the recoverable amount is capped on residential earthquake policies. Secondly, rates are determined by the Non-Life Insurance Rating Organization of Japan, not by a competitive market. Finally, the insurance covers property and contents, but does not provide for additional living expenses.

Efforts are currently underway to improve the precision of the risk estimation, enhance the economic incentives available, increasing the discounts, and encouraging more property owners to voluntarily participate in the program.

While the mechanics of any system similar to the Japanese earthquake system would necessarily have to be more complex to fit the Florida property market and hurricane risk, the basic idea could be applied. The fundamental steps would be to:

1. Develop a uniform Hurricane Resistance Grading Schedule that would assign a grade to structures (houses or condominiums) based on the existence of windstorm loss mitigation features/construction

techniques. This schedule, including reasonable discounts, could probably be either determined by or in conjunction with the Department of Community Affairs or the Florida Building Code Commission. The DCA should probably also be responsible for determining the appropriate credentials necessary to perform inspections used to determine grades

2. Require all structures to be graded at time of construction, sale or re-sale. In addition, allow the owner of any structure to request an inspection at any time.

3. Replace the current windstorm loss mitigation features/construction techniques discounts (627.0629(1)) with Hurricane Resistance Grading Schedule discounts. These discounts could be uniform (determined as a by-product of the grading schedule) or insurers could be allowed to determine reasonable discounts based on the grading schedule.

The steps outlined above are brief; clearly significant resource and expertise investment would be required in order to make such a system operational in Florida.