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STATE OF SOUTH CAROLINA  
DEPARTMENT OF INSURANCE

HEARING REGARDING:

HURRICANE CATASTOPHE MODELS IN RATEMAKING  
IN SOUTH CAROLINA

DATE: October 9, 2013

TIME: 10:07 a.m.

LOCATION: South Carolina Bar Conference Center  
1501 Park Street  
Columbia, SC

REPORTED BY: Joy R. Dawson, Court Reporter

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14 MARK L. BRANNON  
15 MARTIN SIMONS  
16 WILL DAVIS

17 (INDEX AT REAR OF TRANSCRIPT)

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1 MR. FARMER: My name is Ray Farmer. I'm  
2 the director of the Department of Insurance  
3 for the State of South Carolina. I want to  
4 welcome you this morning to our hearing on the  
5 public -- on the use of hurricane catastrophe  
6 models and property insurance ratemaking in  
7 this state.

8 Just as a little bit of a background, I  
9 want to tell you just a little of what we'll  
10 do, and then we'll get started with our  
11 witnesses. Catastrophe model is a risk  
12 management tool that uses computer technology  
13 to help insurers, reinsurers, businesses, and  
14 government agencies to better assess the  
15 potential losses caused by catastrophic events  
16 such as hurricanes or other natural disasters.  
17 Catastrophe modeling combines historical data  
18 with current demographic bill -- scientific  
19 and financial data to determine the potential  
20 costs of catastrophes.

21 Our code in Section 38-75-1140 permits  
22 the use of hurricane models. We have the  
23 authority to examine the models that are used  
24 in rate filings. We don't approve the models  
25 themselves. We approve the rates that the

1 companies submit that use the modeling  
2 information.

3 During 2012, the Department engaged in an  
4 evaluation of the modeling process. We  
5 engaged a panel of three experts: Mr. Martin  
6 Simons, the actuary; Dr. Jenni Evans, the  
7 meteorologist, and Dr. Masoud Zadeh.

8 And, Dr. Zadeh, I apologize already for  
9 mispronouncing your name.

10 But we engaged those three individuals as  
11 an expert panel to review the models that are  
12 used in this state. Currently, there are  
13 four.

14 This has been a process that started in  
15 2005 when the Department engaged another panel  
16 to come up with a South Carolina-specific  
17 model. That effort was not successful. In  
18 2012, we made another attempt, and I'm  
19 pleased -- I'm very pleased to tell you that  
20 this panel has produced a final report which  
21 is the subject of this hearing this morning.

22 They've produced a preliminary report  
23 that was available in early July. It was  
24 posted on our Web site July 19th. And they  
25 produced the final report this past Sunday.

1           There are -- which is October 6th. There are  
2           copies in the back of the room. If you have  
3           not obtained one, please do so.

4           Our purpose this morning is to review the  
5           report and recommendations made by the panel,  
6           to receive other input and recommendations on  
7           the report and the recommendations regarding  
8           the use of catastrophe models in ratemaking.  
9           We'll gather other information on the  
10          appropriate regulatory framework for  
11          monitoring the models.

12          We'll also discuss and ascertain whether  
13          it's feasible for the state of South Carolina  
14          to develop our own hurricane catastrophe  
15          model. But this morning is the time for  
16          presentations, for other discussions for us to  
17          look into the models themselves to answer  
18          questions that the public may have. And today  
19          is that day to do that.

20          We will have three witnesses this morning  
21          to speak. First will be Mark Brannon with  
22          Merlinos & Associates, an actuary;  
23          Marty Simons, who we've already mentioned, the  
24          actuary that conducted the study; and then  
25          Will Davis, the property and casualty actuary

1 for the Department of Insurance.

2 And we will get to them in just a minute,  
3 but just a few ground rules this morning. If  
4 you do speak, please come to the microphone  
5 and speak in a manner that our court reporter  
6 here can understand. Provide your identifying  
7 information.

8 And this is an open hearing. My entire  
9 goal this morning is to make this process more  
10 transparent, to see what the Department uses  
11 in preparing and approving homeowners'  
12 insurance rates in this state. The models are  
13 an important piece of that. As far as I know,  
14 we're probably about the third or fourth  
15 state -- Marty can correct me -- that has gone  
16 to this level of looking into the models  
17 themselves.

18 Let me also address a couple of little  
19 procedural matters. A notice of today's  
20 hearing was distributed to every newspaper in  
21 this state, a statewide circulation. It was  
22 posted on our Web site on July the 19th. It  
23 was posted on our Twitter account. It was  
24 published in the Charleston Post and Courier  
25 on July 19th and 23rd. The hearing notice

1 also provided for an invitation for people to  
2 advise us they'd like to speak. They could do  
3 that in two fashions, one by e-mail or one by  
4 regular U.S. mail.

5 We have received no request for anyone  
6 from the public to speak; however, be not  
7 dismayed. We will have a public testimony  
8 time at the end of our presenters. Please  
9 hold your remarks to about five minutes. This  
10 is going to be a fairly long hearing today.  
11 We do welcome your participation.

12 Now, without any other comments, we'll  
13 hear from Mark Brannon who will provide kind  
14 of a background as to what the models do and  
15 where we go from here.

16 PRESENTATION BY MR. BRANNON

17 MR. BRANNON: Thank you, Director Farmer.  
18 My name's Mark Brannon. I'm a consulting  
19 actuary with Merlinos & Associates in  
20 Norcross, Georgia. I was invited today to  
21 come and make a presentation on the history of  
22 the development and use of catastrophe models  
23 in ratemaking, and that's what I've prepared  
24 today.

25 Based upon my experience -- and I've gone

1 and done a lot of additional research outside  
2 of my experience. But I think that one of the  
3 reasons why I like to give this kind of  
4 information is I was there at the beginning,  
5 so to speak, along with Marty and others, when  
6 the models first started to emerge in the  
7 market back in the '80s and early '90s.

8 A little bit about my experience. What  
9 happened, I started as an actuary in 1987 at  
10 Cotton States Mutual in Atlanta. There was a  
11 little Florida exposure there, but not enough.  
12 I did get one visit down in the insurance part  
13 of it.

14 I went to work for State Farm in  
15 Bloomington, Illinois in 1990, and Hurricane  
16 Hugo, it was less than a year old at that  
17 time. And my initial work there didn't have  
18 anything to do with the south. I was working  
19 on midwestern state issues and California --  
20 and other things out west. But after Andrew,  
21 I was drafted to work with one of the  
22 long-time actuaries at State Farm.

23 And after several years, I was involved  
24 in basically helping the company modify how we  
25 produced rates for different property products

1 over those next five to six years. Also, as  
2 we go through this, I'll include some  
3 snippets of things that were going on at the  
4 time in the industry when I was at State Farm.

5 I left in '98 to become an independent  
6 consultant in Atlanta with Merlinos &  
7 Associates. And since then, I've worked for  
8 everybody. In the area of property  
9 ratemaking, I work for insurance companies, to  
10 make filings, to support rate filings, to help  
11 them use these models in the best ways they  
12 can, underwriting, exposure management,  
13 reinsurance negotiations, et cetera.

14 I also work for state regulators. In  
15 addition to some services where I helped South  
16 Carolina, Mississippi, Alabama, Maryland,  
17 Virginia, Maryland -- are all states that I've  
18 worked directly with their commissioners and  
19 directors of insurance and their staff to help  
20 them through this process of bringing the  
21 models into the mainstream of property  
22 ratemaking but also ensuring that things are  
23 done according to the standards of practice  
24 that actuaries must follow.

25 In 1999, I applied to become a part of

1 the Professional Team of the Florida  
2 Commission on hurricane loss projection  
3 methodology. And that's actually easier to  
4 say than the letters there. And we'll talk a  
5 little bit about what the commission in  
6 Florida was all about. But I've basically  
7 been Marty's backup and provided additional  
8 analysis services for the pro team who worked  
9 for the commission over that period. And that  
10 has provided a lot of insight as far as the  
11 inner workings of the models but also how they  
12 should be used and how actuaries and  
13 regulators should handle, then, all the issues  
14 that come with it, including models and rates.

15 The time before models, a lot of things  
16 were going on that were kind of setting the  
17 tables for a disaster. You know, there are  
18 people who say they saw the housing bubble  
19 that was going to burst in '07 and '08, but  
20 sure didn't catch a lot of people who did know  
21 what was going on.

22 The demographic and cultural things that  
23 were going on and things in nature that were  
24 going on in the period leading up to the  
25 mid-'80s all fed into the crisis that

1 eventually emerged in Hurricane Andrew.  
2 Everybody knows these things. Population  
3 grows -- especially costal areas -- as they  
4 develop. Florida started to just explode with  
5 growth. So that produces more housing that  
6 has to be insured, more buildings, more  
7 businesses.

8 People tended to want to live on the  
9 beach or on the coast, so that's why you see  
10 Miami, Ft. Lauderdale, Hollywood, Boca Roton,  
11 Naples, Ft. Myers, Tampa, Clearwater, you  
12 know, beautiful places to live. And housing  
13 wasn't that expensive. And then people  
14 started wanting to build bigger houses on the  
15 beach. And so all this exposure growth was  
16 going on, and there weren't very many storms  
17 during this period.

18 It was a period of incredible growth.  
19 Insurance companies took advantage of that.  
20 It was very competitive. Coverages started to  
21 expand to try to attract more policyholders to  
22 our company. And there just wasn't quite  
23 enough information to understand how this  
24 accumulation of exposure was going to expose  
25 these companies one day.

1           The development of the home owners  
2 policy, that's really part of the competitive  
3 drive, is to formulate a way to get coverages,  
4 two-in-one package, but also the introduction  
5 of replacement costs, including guaranteed  
6 replacement cost and other expansions of  
7 coverage that ended up causing quite a bit of  
8 turmoil later.

9           The other thing that was going on is  
10 computers were still in their infancy. They  
11 were being used by the government, of course.  
12 And insurance companies had large computer  
13 systems, but the power and the knowledge of --  
14 and how to simulate, do a lot of simulation,  
15 was really limited. Only government and maybe  
16 a few of the larger companies had access or  
17 ability to try and do simulation. Use of a  
18 lot of computer power that just wasn't there  
19 yet.

20           So here's a little information on coastal  
21 exposure growth. I've highlighted  
22 South Carolina. These are coastal counties,  
23 the counties in these states that -- above  
24 either the Atlantic Ocean or the Gulf of  
25 Mexico. And you can see, of course -- I guess

1 in the west as well. But if you look at  
2 Florida, everybody knows about that. But as  
3 you go down, you'll see that there are other  
4 areas that grew also. And South Carolina, 125  
5 percent increase over those 50 years. And a  
6 lot of that growth was in the last 15 to  
7 20 years, especially what I saw as far as a  
8 growth in Myrtle Beach over that time period.

9 This is a little more information that  
10 shows coastal exposure by state as a relation  
11 to total exposure. This is in order of  
12 coastal exposure, highest to lowest. What's  
13 interesting here is you can see how dense the  
14 population is on the coastal areas of all  
15 these states. Again, this was just setting  
16 the table for the later discovery of what this  
17 exposure was going to mean as far as the  
18 health of the insurance and the financial  
19 system.

20 South Carolina -- of states in the south,  
21 South Carolina's really rated below -- only  
22 below Florida, as far as percentage of  
23 exposure on the coast. Texas is close. The  
24 states that are most prone to hurricane  
25 landfalls, really Texas to North Carolina.

1 You can see that because of the cities in  
2 South Carolina: Myrtle Beach, Charleston,  
3 Beaufort, there is a -- not a disparate amount  
4 -- but there is a large amount of exposure  
5 that's just there along the coast.

6 So what were actuaries trying to do at  
7 this time? Well, the only thing we could do,  
8 use the experience we had. And for  
9 catastrophes, they happen so infrequently, it  
10 was very difficult to take that information  
11 and try and create a bigger picture of what  
12 the underlying loss potential was. It's kind  
13 of like trying to put a puzzle together. It's  
14 a 1,000 piece puzzle, and you've only got  
15 50 pieces, maybe 100 pieces. But it's very  
16 difficult to get a clear picture, especially  
17 with earthquakes.

18 For hurricanes, we have enough exposure  
19 that we've developed some methodologies by  
20 different insurance companies and by the  
21 insurance services offices to come up with a  
22 way to kind of allocate some kind of total --  
23 hurricane expected losses to the state. It's  
24 very difficult to figure out how much to  
25 charge the coastal exposures and those inland.

1 Now, how different should a rate be in  
2 Charleston than the same house in Columbia? A  
3 lot of judgment -- a lot of judgment -- is  
4 used.

5 Over time -- again, when you try and use  
6 historical information of 30, 50 years ago,  
7 you know, insurance policies and the type of  
8 exposure and the type of homes that actually  
9 were being built at that time -- and you're  
10 looking at storms in the '20s and '30s and  
11 '40s -- today's exposure's so different. How  
12 can you -- if you're using average experience  
13 in that long of a time period, how can you  
14 reflect current conditions? Because you're  
15 making rates for next week or next year right  
16 now.

17 Again, these things -- the building codes  
18 are very different. Home building codes were  
19 either strengthened or weakened over time to  
20 promote growth in some of these areas. It's  
21 very difficult to understand if a  
22 100-mile-per-hour wind with X dollars of  
23 damage in 1928 -- you know, how can you say  
24 that that -- from that information, we can use  
25 that directly to say what that hurricane would

1 do today? It's just not very useful  
2 information. So it's really a lot of  
3 judgment.

4 And I'll tell you, through my time, it  
5 was okay to use judgment because things just  
6 didn't -- the storms that were making  
7 landfall, there were some big ones, but they  
8 didn't happen very often. And companies were  
9 able to get surplus. They had the surplus to  
10 protect their retention, and they were able to  
11 buy reinsurance because the reinsurance market  
12 was fairly stable.

13 Well, things started changing after a few  
14 storms in the '60s that were pretty large. We  
15 went through a period of really low hurricane  
16 activity. These -- this is North Atlantic  
17 tropical storms on a ten-year average, but you  
18 can see around the time of Andrew, things  
19 really kicked off as far as, you know, way  
20 outside the range of what had been happening  
21 in the prior 60 years, 70 years.

22 So that period of time there that shows  
23 the '70s and '80s, it's very quiet storm-wise  
24 and just, again, continued just explosive  
25 growth exposure along the coast. And then, of

1 course, we'll talk about what happened after  
2 that later.

3 And this is just another graph that  
4 shows total catastrophe. I'm borrowing this  
5 from Munich Re. Let me give -- attribute  
6 them. And they provide some great information  
7 on their Web site about the history of natural  
8 disasters. But this shows not just hurricane  
9 events, meteorological events, but also  
10 floods, drought, and earthquakes, tsunamis.

11 So as things started to pick up  
12 activity-wise, we realized something was  
13 wrong. And this is what I experienced -- and  
14 Marty, with Hugo, was working for the  
15 insurance department at the time, and we had  
16 just a series of events that happened that  
17 just sucked the wind out of the property  
18 market. Hurricane Hugo we know about.

19 These dollars are estimates in current --  
20 around current, you know, 2011, 2012 dollars.  
21 So we'd say would have occurred in 2012, let's  
22 say.

23 The Loma Prieta earthquake in  
24 San Francisco -- I think it was San Francisco  
25 that was playing in the World Series.

1           A really big one was the Open Hills  
2           fires. You may not remember that, but there's  
3           hills that overlook the San Francisco Bay.  
4           Wildfire destroyed every one of those houses.  
5           Those houses were -- replacement costs was in  
6           the 400,000 to 600,000 range. The average  
7           amount of insurance was about 150- or 200,000.  
8           But they had guaranteed replacement cost  
9           policies, so companies had to go rebuild those  
10          houses for 600,000 even though they were only  
11          paying for 150- or \$200,000 worth of  
12          insurance.

13           That caused a big change. People started  
14          realizing that was not -- they'd been overly  
15          aggressive just to market that product.

16           Of course, Andrew, which in the case of  
17          State Farm -- State Farm had -- fire and  
18          catastrophe had \$4 billion in --

19                           (Outside interruption.)

20           MR. BRANNON: But, basically, Andrew  
21          wiped out the entire surplus for the Fire and  
22          Casualty Company and required an infusion of  
23          capital from the Mutual Auto Company to stay  
24          in business. It was by far the one event that  
25          really showed how all of these kind of

1           preconditions had set the table for a massive  
2           wake-up call and a real examination of how we  
3           priced and underwrote these exposures.  
4           Hurricane Iniki also happened in Hawaii, a  
5           storm that caused damage there, another state  
6           that had grown tremendously. And Marty was  
7           very involved with Hawaii and helping them  
8           after Iniki in regulatory and ratemaking areas  
9           there.

10           There was a massive winter storm,  
11           blizzard, that cost a lot, just to add icing  
12           on the cake, and then the Northridge  
13           earthquake which was on the unknown fault.  
14           You know, you really have to wonder why in the  
15           world did we get in this business when you've  
16           got all of these things that -- we should have  
17           maybe known about some of them, but things are  
18           happening that we never knew were possible  
19           also.

20           Well, modeling action is already in the  
21           works, so to speak, at that same time that  
22           those storms and earthquakes and events were  
23           bleeding a lot of companies out of business.  
24           But in 1986, the proceedings of the Casualty  
25           Actuarial Society had a paper by Karen Clark

1 who went on to form Applied Insurance  
2 Research, AIR, and this was in our main  
3 actuarial -- not period, but our juried and  
4 reviewed papers where she laid out how to use  
5 historical experience to build a model that  
6 could be used to simulate hurricane activity  
7 when given information for companies to use to  
8 better manage their risks.

9 Also in the '80s, there were a lot of  
10 reinsurance companies that were developing  
11 their own models as far -- and mainly severity  
12 models to figure out, if we do have a storm  
13 here, what are the losses going to be? But  
14 they had not yet developed a probabilistic  
15 type model that Karen was talking about.

16 And then, of course, the '89 to '94  
17 catastrophe just showed how the current way of  
18 ratemaking was so inadequate. And actuaries  
19 have to produce rates that meet the laws of  
20 the state and need to be documented accepted,  
21 inadequate, or unfairly discriminatory. And  
22 you have to comply with those standards of  
23 practice that are required if you have an  
24 estimate that you can make -- give an opinion  
25 on that it's reasonable. And all of the

1 sudden, we really couldn't say if the  
2 historical method was reasonable anymore.

3 So during the '90s -- and Marty may  
4 remember this and another actuaries in the  
5 audience -- but there were a flood of papers  
6 and presentations and panels. The actuarial  
7 community and -- along with regulators were  
8 just trying to grapple with how now do we  
9 start to use a different technology; first,  
10 convince everybody the way we've been doing  
11 things isn't going to work, and, secondly, how  
12 do we get more comfortable in using these  
13 simulation models to actually produce rates  
14 that we're going to charge policyholders in  
15 this state. There was a lot of internal  
16 discussion and a lot of kind of taking baby  
17 steps in a lot of states over time to get  
18 there.

19 In the '90s, my experience with State  
20 Farm was I started to make -- I was  
21 signing the filings that included output from  
22 the AIR model for the first time. I was  
23 involved in a filing here in South Carolina in  
24 1996 that was a contested -- went to a  
25 contested rate hearing. It was really the

1 first time -- I don't know -- for State Farm  
2 it was -- maybe not for other companies --  
3 that had to give testimony on why these models  
4 need to be trusted and used and were  
5 reasonable. The filing eventually was  
6 approved by the administrative law judge and  
7 went on, but also had to go through the same  
8 process as Florida, Louisiana, Alabama,  
9 Mississippi, and eventually all the states.

10 The actuarial community responded by  
11 producing some standards of practice for  
12 actuaries to adhere to that relate to how do  
13 you use a model in -- which you don't have any  
14 expertise in modeling, but you used the output  
15 from the model to provide an actuarial  
16 opinion. So how do you -- how should you  
17 conduct yourself in reviewing of the models  
18 and presenting your findings? And Marty --  
19 again, I hate to keep saying Marty, but he was  
20 very involved with the academy in the  
21 development of those standards of practice.  
22 And they have served regulators and insurance  
23 companies and, really, the public very well to  
24 give guidance on, here are the things you need  
25 to be familiar -- not just familiar with but

1           you need to know and be able to present to  
2           document your opinion.

3           Of course, the other thing, computing  
4           power now is available to where you could run  
5           these simulations models. Sometimes it will  
6           take it two or three days, but that was better  
7           than, you know, six months where it would have  
8           been at that rate before.

9           When I first heard Jack Nicholson was  
10          retiring from acting, you know that rumor a  
11          few years ago, a few weeks ago, I was more  
12          worried that Jack Nicholson in Florida was  
13          retiring. How many of you know who  
14          Jack Nicholson is? You can raise your hands.  
15          Some of you know.

16          I call him the most interesting man in  
17          the world. He's much more interesting than  
18          the guy on the Dos Equis commercials. He's  
19          got a doctorate from the University of  
20          Georgia, which is a plus, and then he worked  
21          for the insurance department in Florida and  
22          eventually was tapped to lead two of the most  
23          ambitious, and I would say successful,  
24          regulatory projects that brought use of models  
25          into the main stream in Florida. And, really,

1 the benefit has been for everybody in the  
2 country. But he is a unique individual. He  
3 has been in this position now for basically  
4 the last 20 years.

5 First, was the Florida Hurricane  
6 Catastrophe Fund. After Andrew, the  
7 availability of reinsurance dried up  
8 dramatically, as you can imagine. Capital was  
9 flowing out of these reinsurers to the primary  
10 insurers, billions and billions of dollars to  
11 pay for all of these losses. The catastrophe  
12 fund was created by the state legislature of  
13 Florida, and Jack was asked to head that  
14 through the state board of administration to  
15 provide basically a layer of reinsurance for  
16 companies writing in Florida.

17 It's basically a work -- I'd call it a  
18 working layer, a lower layer, of coverage, not  
19 the high layers where the mega cats would  
20 penetrate. But it provided some stability in  
21 the market then and later, 2006 especially,  
22 when reinsurance capacity dried up. The Cat  
23 Fund is -- you know, grew, maybe, in a lot of  
24 people's eyes, bigger than it should have  
25 been. But there's no doubt that it provided a

1 very good -- and it operates very well -- a  
2 very good way to provide some coverage for  
3 everybody who writes in Florida.

4 The second thing, which is what we really  
5 are talking about here today, is the  
6 commission on hurricane loss projection  
7 methodology was created. This is Jack's baby.  
8 He has been in charge, again, since it was  
9 formed in '95. The commission's job is to  
10 review models -- the model or submit them.  
11 The commission wants to look at them and see  
12 if they meet standards which have been  
13 established so that they can say we accept  
14 this model; it can be used in rate filings.

15 Marty has been involved since almost the  
16 beginning there and I in 1999. But I would  
17 say that the whole -- the state of South  
18 Carolina has benefitted greatly through this  
19 work that's been done digging into the models  
20 to understand how you go from scientific  
21 papers, wind tunnel experiments, detailed  
22 claims data from Hurricane Andrew, how is all  
23 of this used to produce these loss estimates,  
24 now that, really, the insurance industry is,  
25 you know, rest -- the faith you can put in it

1 has rested on these models.

2 And so since that time, they've produced  
3 reports and accepted models for many, many  
4 years. This shows you the models today, in  
5 all the years that they were voted on by the  
6 commission as a -- being an -- accepted to use  
7 in Florida. Some like the Blanch model are  
8 not -- aren't currently -- haven't been around  
9 for a while. The one new one, the Florida  
10 Public model, I think we'll talk a little bit  
11 about that later as it relates to South  
12 Carolina.

13 But Florida did produce their own model  
14 which it's housed at Florida International  
15 University. Dr. Shahid Hameed is the leader  
16 of that project. The Department of Insurance,  
17 or the office of insurance regulation in  
18 Florida, has a contract with the public model,  
19 with FIU, to provide public model launch runs  
20 for their use of regulating rates in Florida.  
21 It's also available for anybody that wants to  
22 use it.

23 The difference for the public model is  
24 that it is public, all of it. You can review.  
25 You can go and sit down and look at the code,

1 programming, any time you want since it's not  
2 subject to restrictions and the public --  
3 privacy laws.

4 To quickly go on, so a quick review of  
5 what's going -- now how things emerge in the  
6 state of South Carolina. I've told you about  
7 Florida and Louisiana were states in the  
8 mid-'90s that I was heavily involved in, as  
9 well as Alabama and Mississippi. And I would  
10 say over the years that a -- the work that was  
11 done in Florida basically spread to these  
12 surrounding states.

13 One of the first questions we get  
14 probably in South Carolina or Alabama: Is  
15 this the same model or basically the same  
16 model as what the commission just accepted?  
17 If you said yeah, then that gave a lot -- that  
18 carried a lot of weight with regulators in  
19 these other states in evaluating the model  
20 because it costs a lot of money and takes a  
21 lot of time to do that.

22 So right now I would say -- and other  
23 three states I've listed here, I'm somewhat  
24 familiar with. In Massachusetts I've been  
25 involved with their plan, rate filings since

1           2005, reviewing that for the state. Models  
2           were required to be used for their wind pool  
3           ratemaking, and models were accepted there in  
4           rate filings. North Carolina, I just saw  
5           something in the news that they are now  
6           requiring that the rate bureau submit a filing  
7           that includes no less than three models from  
8           one to three. I don't know what they're  
9           hoping to do with that. So, you know, North  
10          Carolina's using models.

11                 Maryland and Louisiana, I would say, are  
12          two states that have taken on a higher degree  
13          of review of the models, Louisiana most  
14          definitely. They produce -- if you make a  
15          filing in Louisiana, you have to submit  
16          interrogatories from the modeler and from the  
17          insurance companies with your filing.

18                 So right now, hurricane models are almost  
19          universally required in rate filings. New  
20          York I think is a holdout in many ways. But I  
21          think after Sandy, there's going to be  
22          probably some market disruption up there that  
23          will basically lead them to have to understand  
24          that the models are the only way to manage  
25          that exposure.

1           Rating agencies require it, others. And  
2           of course reinsurers use them, and it's part  
3           of the input in the pricing for reinsurers in  
4           addition to just general availability of the  
5           capital and other things. The models are  
6           updated as new information becomes available.

7           Most recently, several companies made  
8           adjustments in their models based on  
9           information from the hurricanes in 2004, 2005  
10          in Florida, as well as Ike in Texas -- was it  
11          Ike -- that we've seen in their submissions in  
12          Florida. They reflect some things they  
13          learned, just how the winds of the storm  
14          carried inland and how different types of  
15          construction were affected.

16          Models are provided, not just for  
17          hurricane and earthquakes, but almost all of  
18          the perils, you can -- you could consider a  
19          catastrophe: Winter storm, wildfires, et  
20          cetera that are available.

21          And what I see is the regulatory focus  
22          right now, in general, is states want to make  
23          sure that the models are properly reflecting  
24          the building stock in those states and that it  
25          reflects the meteorological history of the

1 state, as far as how many hurricanes make  
2 landfall, how big are they, what kind of  
3 damming winds did they have, how far did they  
4 go inland. And so that's part of the process  
5 that Marty and his group has undertaken.  
6 We'll hear his report in a minute. But not  
7 every state has been able to dig into these  
8 things as far as Florida has over time, but  
9 it's slowly moving that way.

10 I think the other things are updates.  
11 You know, models are supposed to not change  
12 that much. But if you go in and make changes  
13 to the -- to certain components based on new  
14 science that every -- that the scientific  
15 community agrees on, it can have some impact  
16 on individual pockets or areas of the state.

17 Most recently in Florida -- but it's also  
18 in other states -- we saw some changes a few  
19 years ago that saw some decreases in the  
20 expected losses in the coast and pretty good  
21 size increases inland. Again, that was  
22 science, looking at that sort of the more  
23 recent hurricanes, that showed that -- the  
24 damage showed that that was -- those were some  
25 assumptions that needed to be addressed.

1           The other thing is we see that there's a  
2           lot of institutional knowledge being stored in  
3           these insurance departments. I know Will's  
4           been at the Department for several years, but  
5           there have been a lot of people involved in  
6           this area, both at the regulator level and  
7           with the insurance companies, such that  
8           there's more and more confidence, I believe,  
9           that's being raised as the models are being  
10          examined and used.

11          I'll just throw this in here. The  
12          building codes are the only way that they were  
13          going to see any meaningful change, and that's  
14          going to take decades to turn housing stock  
15          over and rebuild to -- to stronger building  
16          codes.

17          This is a IBHS, Institute for Business  
18          and Home Safety. They have a Web site you can  
19          go on to see who's doing good things with  
20          building codes and who's not. You see South  
21          Carolina here has adjusted, done some good  
22          things in 2012, and one of those is the  
23          adoption of the 2006 building code in the  
24          state.

25          That's information. If you want to --

1 anything after the meeting you want to follow  
2 up on, I'm here.

3 Am I open for questions now, or are we  
4 going to save them for later?

5 MR. FARMER: We'll ask a couple questions  
6 now, and then you'll be around all day. We're  
7 going to try to stay on track, on schedule.  
8 I've got a question or two. But also with me  
9 asking questions are general counsel with us  
10 and our deputy of market and services,  
11 Kendall Buchanan. They will both be asking  
12 questions as well at some point.

13 Mark, you mentioned the models and  
14 then -- as opposed to historical data and so  
15 forth. In the past, we've always relied on  
16 historical data. Now that the models are  
17 where they are, how much weight should a  
18 department put on historical data? How much  
19 weight should we put on the models themselves?

20 MR. BRANNON: Well, I think in the  
21 primary company ratemaking process, they're  
22 not going to use much of the historical  
23 information like we used to use, take losses.  
24 That ended up happening in the past, trying to  
25 estimate what would those losses be in the

1 future because of the problems with -- that we  
2 talked about. The one area where historical  
3 information does make sense to look at is, we  
4 have output from a model, and you're trying to  
5 evaluate whether a model is producing  
6 reasonable results. One of the things you  
7 want to see is how does it -- if you were to  
8 run a simulation of Hugo, for instance, and  
9 you look at the output of those models, how  
10 does that compare to what the actual loss was  
11 at the time?

12 And so you can make some judgment as to  
13 whether a model can reasonably replicate the  
14 actual losses that occurred. They're not  
15 going to hit it right on the money, but  
16 that's -- one of the requirements of the  
17 review is to see does the model produce  
18 simulated hurricanes that make sense based on  
19 what's happened in South Carolina, Florida,  
20 wherever, in the historical data. Using  
21 actual historical insurance policies and  
22 price, hurricane and earthquake shouldn't be  
23 relied upon at all really.

24 MR. FERGUSON: Ray, the models themselves  
25 do have a historical part of it.

1 MR. FARMER: They do.

2 MR. FERGUSON: But it's probably weighted  
3 like 75 percent historical, 25 percent  
4 projected out, so you do get in models both.

5 MR. FARMER: Right. Okay. Since South  
6 Carolina has a lot of exposure on the coast --  
7 28 percent of our insured value's on the  
8 coast -- would it be to our advantage to do  
9 something similar to what Florida has done and  
10 develop our own hurricane model?

11 MR. BRANNON: Well, you can look at the  
12 money that was spent to develop that model,  
13 the years of experience at work. It was not  
14 an easy road for FIU to develop that model and  
15 to get it through the acceptability process in  
16 Florida. As I've said, South Carolina has  
17 benefitted, and other states, greatly from the  
18 work Florida has done to validate many of  
19 the -- really the same components:

20 Meteorological, the engineering, the physical  
21 components -- of the model that apply in South  
22 Carolina just like they do in other states.

23 So it's really up to the state. If you  
24 wanted to develop your own model, you could.  
25 I think just as far as sheer amount of

1 exposure on the coast, you know, South  
2 Carolina is a meaningful amount. But I don't  
3 know -- that's really for the state to  
4 investigate if they really think they should  
5 do it. There are other ways that you can  
6 build some -- some internal models. Marty --  
7 Mark Johnson and Chuck -- Chuck Watson, they  
8 produced a paper in the Journal of Insurance  
9 several years ago that laid out a way you  
10 could easily produce a public model from  
11 available -- publically available components.  
12 And I've tried to promote that approach. A  
13 couple people from the states said should we  
14 start our own model.

15 MR. FARMER: The process that we're  
16 following now using experts to look at the  
17 Florida models with South Carolina data, is  
18 that sufficient for our purposes now?

19 MR. BRANNON: I believe that, you know,  
20 based on what the statutory -- your statutory  
21 authority to do this review, that I think  
22 this -- this is the right way to do it.  
23 You're supposed to get experts and, plus,  
24 you're using -- got three people who have been  
25 very involved, have a lot of that

1 institutional knowledge about each of these  
2 modeling companies. Actually, I'd say Marty's  
3 probably been as involved in these models as  
4 many of the people who he's met with at AIR  
5 and RMS. They have more turnover than the  
6 commission has. But, yes, I believe this kind  
7 of process should -- it will do two things.  
8 It will give us guidance on how we should look  
9 at models in the future in rate filings, but,  
10 also, it should provide some confidence that I  
11 think we can give to the public that the use  
12 of models is -- is reasonable. And it  
13 produces results that can be depended upon.

14 MR. FARMER: How often should we go  
15 through this process?

16 MR. BRANNON: Well, Florida looks at  
17 these models every two years, but that doesn't  
18 mean that they don't have versions that they  
19 put out in the interim. That's kind of a --  
20 that is a problem because a -- not a problem,  
21 but the situation is we've looked at three  
22 versions that -- four models. But there could  
23 be changes that could -- new updates in those  
24 models next year. Now, they can't use them in  
25 Florida because the statute says you can only

1 use accepted models in Florida. But what  
2 about South Carolina? I think that we will  
3 need to have some process in place to evaluate  
4 that. I think Marty -- and you have a panel  
5 with a recommendation.

6 But I do believe every few years you may  
7 want to do a full examination, you know, just  
8 like some of your tests your doctor wants you  
9 to take every five years or so, you know.  
10 That might be something like that, every three  
11 to five years might be a good thing.

12 MR. FARMER: Okay. Anybody else have any  
13 questions? Okay. Thank you, Mark.

14 MR. BRANNON: Thank you.

15 MR. FARMER: Mark will be around for this  
16 entire hearing, so if we have any questions  
17 later on, we can get him back. My intention  
18 is at the end of this hearing, the record's  
19 going to be open until October 31st. Anyone  
20 that does not make comments today, feel free  
21 to submit written comments between now and  
22 close of business on October 31st. We will  
23 outline our action at some point -- what we  
24 intend to do as a result of the hearing, and  
25 we'll also be posted on the Web site.



1 have -- I have our structural engineer on the  
2 phone that's available in case any questions  
3 get tougher than the actuary can answer as far  
4 as the -- as far as the structural engineering  
5 part goes. Now, what would I do with my --

6 Okay. The South Carolina department  
7 hired a panel of experts to review four of the  
8 models, and I'll say ahead of time that three  
9 of these models are used in South Carolina.  
10 One of the model is not used but asked to be  
11 part of the review. They asked to be part of  
12 the review, which I thought was very  
13 interesting. The models that we looked at are  
14 AIR-WorldWide Corporation, Applied Research  
15 Corporation, ARA -- and that's the model that  
16 has not yet been used in South Carolina but  
17 asked to be a part of the review -- EQECAT,  
18 which is in California, started out to be an  
19 earthquake modeler, and they have -- they have  
20 had hurricane models reviewed in Florida for  
21 several years, and Risk Management Solutions,  
22 RMS.

23 The Department also added the South  
24 Carolina Wind and Hail Underwriting  
25 Association to complete modified versions of

1 the forms that we had that each of the modeler  
2 filled out. And that was a great help to us  
3 as far as what's going on in the state.

4 The people that were involved in this --  
5 there were three of us involved. Let me check  
6 that -- Masoud, can you say hello?

7 MR. ZADEH: Yes. This is Masoud Zadeh.  
8 Good morning, everyone.

9 MR. SIMON: Everything's working. That's  
10 great. There were three of us involved. I  
11 provide property and casualty services to  
12 several jurisdictions in the United States and  
13 Canada. I'm currently a member of the general  
14 committee of the Actuarial Standards Board.  
15 Now, Mark talked about that, but the Actuarial  
16 Standards Board actually writes up the  
17 standards or reviews the standards or updates  
18 the standards. And it's very interesting that  
19 just two days ago, we provided an updated  
20 standard -- the actuarial standards are called  
21 ASOP, Actuarial Standards of Practice.

22 We updated ASOP number 38 which is the  
23 standards that actuaries need to use when  
24 they're working with catastrophe bonds, so  
25 it's very interesting that that's out for

1 review with the other actuaries.

2           Once the general committee writes up our  
3 recommendations, we send it out to all the  
4 actuaries in the country because the general  
5 committee is the one that deals not with just  
6 life actuaries and not just PNC actuaries but  
7 everybody.

8           So I'm also on the Extreme Events  
9 Committee of the American Academy of  
10 Actuaries. Since 1997 I've been the lead  
11 actuary of the Professional Team of the  
12 Florida Commission.

13           And I'd like to say that our reviews of  
14 hurricane models are three-day reviews, and  
15 they are extremely intense. For several  
16 years, the commission members were not allowed  
17 to attend any of our reviews. But in the last  
18 few years, Florida passed a law that the  
19 commission members were allowed to receive  
20 proprietary information. So they were allowed  
21 to come to our reviews of the models, but they  
22 were told to stay in the back of the room and  
23 keep their mouths shut, and they could ask the  
24 modelers questions after we left. And they've  
25 been very amazed at the level of our reviews.

1           We have actually five members of our  
2           team, and I'm going to -- in Florida. And we  
3           use three members of the team here because two  
4           of the items -- two of the members, one of  
5           them is a statistical expert, and one is a  
6           computer science expert. And if a model has  
7           adequate computer science and statistics in  
8           Florida, it -- we kind of determined that we  
9           didn't need to spend a whole lot of money to  
10          redo that for South Carolina.

11          So what we did was we had three people  
12          involved here. I was also a senior member of  
13          the advisory committee of the Hawaii Hurricane  
14          Relief Fund from its creation to -- to my  
15          involvement in approving the industry filing  
16          to take back the hurricane risk. That's  
17          nirvana to a regulator. We were very happy to  
18          see the industry wanted to come back and take  
19          the risk from the Hawaii Hurricane Relief  
20          Fund.

21          But those that are involved in that have  
22          always had very high esteem for the Hawaii  
23          Hurricane Relief Fund. And I can remember in  
24          1993 at the President's Day weekend that the  
25          commissioner -- the deputy commissioner and I

1 sat and tried to work out the beginnings of  
2 what became the Hawaii Hurricane Relief Fund.  
3 We were very fortunate that the commissioner  
4 had a previous job of being involved in  
5 Washington, DC. So she had a lot of contacts,  
6 and we were able to get some tax advantages  
7 that other agencies had never been able to  
8 get. And I don't think we could have gotten  
9 them again.

10 The other thing is that from 1985 to  
11 1997, I was the deputy commissioner at the  
12 South Carolina -- the deputy commissioner and  
13 chief actuary in the South Carolina Department  
14 of Insurance. And, yes, I was here during  
15 Hurricane Hugo, and it was just: What do we  
16 do now? John Richards was the commissioner,  
17 and he did an outstanding job just putting  
18 things together to help people that needed  
19 help, putting committees together that were  
20 available on the coast to help people that  
21 needed help.

22 The second person involved in -- in our  
23 review now is Jenni Evans. She's a professor  
24 of meteorology at Penn State University.  
25 She's a fellow of the American Meteorological

1 Society -- I'm going to read a lot of this  
2 because I don't understand what it is -- and  
3 among many other roles has previously served  
4 as councilor for that society. She joined the  
5 team in 2003.

6 She has been the lead meteorologist on  
7 the Professional Team of the Florida  
8 Commission since 2004. She has also served as  
9 advisor to the hurricane model evaluation  
10 inquiries for the states of Massachusetts and  
11 Maryland. She was actually there to help me,  
12 because I was involved in both of those as an  
13 actuarial consultant. She has over 40  
14 peer-reviewed journal articles on various  
15 aspects of tropical cyclones and has presented  
16 over 100 invited talks and conference papers  
17 on her research. She is presently the chair  
18 of the World Meteorological Society  
19 International Workshop, and that's part of the  
20 United Nations. So she's pretty heavy duty as  
21 far as her ability to understand the  
22 meteorological components of these models.

23 The third person involved is actually on  
24 the phone. Jenni, I believe, is teaching  
25 right now. The problem with getting

1 professors on your group is they have to  
2 teach.

3 The third person is Masoud Zadeh. He's a  
4 doctor. He provides engineering risk  
5 consulting services in the areas of natural  
6 and man-made hazard risk assessment and  
7 management to the insurance and reinsurance  
8 industry, to insurance regulators, to nuclear  
9 industry, commercial and local, state, and  
10 federal government sectors.

11 He has developed, applied, reviewed,  
12 and/or audited catastrophe risk models for  
13 natural catastrophes such as hurricanes,  
14 tornadoes, high winds, and earthquakes. From  
15 1997 he has been on the HAZUS Wind Committee  
16 overseeing the development of HAZUS-MH  
17 hurricane module for Federal Emergency  
18 Management Agency, FEMA.

19 Since 2005, he has been the lead  
20 structural engineer on the Professional Team  
21 of the Florida Commission. Before then he led  
22 a team of engineers, scientists, and actuaries  
23 to submit commercial hurricane catastrophe  
24 risk models to the Florida Commission. And I  
25 remember those days because I was part of the

1 review team that reviewed those models. He is  
2 an independent consultant engineer. Dr. Zadeh  
3 is a licensed professional engineer.

4 And I always like to tell people that his  
5 real name is Masoud Zadeh. But he kind of  
6 simplifies it and goes by Zadeh here in the  
7 United States.

8 The first thing I'd like to talk about --  
9 Mark Brannon talked about it a little bit --  
10 the actuarial credibility of the insurance  
11 claims that -- for producing hurricane loss  
12 costs is close to zero; that is, one can place  
13 no confidence in hurricane insurance loss  
14 costs derived from insurance company claims  
15 data alone. The insurance department should  
16 refrain from accepting historical claims data  
17 for hurricanes as a basis for indicating rates  
18 that are not excessive, inadequate, or  
19 unfairly discriminatory. And that is always  
20 the basis, to make sure that the rates are not  
21 excessive or inadequate or unfairly  
22 discriminatory.

23 I remember the days around the days of  
24 Hugo when we did use insurance companies'  
25 claims data. An insurance company would make

1 a filing, and it would have 25 years of  
2 insurance claims data, and Bob Hunter would  
3 come in and say we need 50 years. And that  
4 was the way we did it, and 50 years is  
5 certainly not enough.

6 We -- we make the modelers have enough  
7 years in their models. Now, they're creating  
8 hurricanes, so they're not looking at just  
9 insurance claims data, but we insure the  
10 models use enough information that the  
11 difference -- that the variability caused by  
12 the model in any county is less than 2  
13 and-a-half percent. We have made one of the  
14 models change their model from using 100,000  
15 years to using 300,000 years so that they  
16 could reach that goal.

17 And I'm only bringing that up to give you  
18 an idea -- I'll bring several things up to  
19 give you an idea of the intensity of the  
20 Florida Commission's reviews. The Florida  
21 Commission's reviews are extremely intensive.  
22 They're three days of looking at everything in  
23 the model. The modelers can't tell us in  
24 Florida that that's proprietary information;  
25 you can't see that. We can see everything.

1 Now, that's an important point, and I'd like  
2 to bring that out, is that the Florida  
3 Commission is aware of the fact that these  
4 modelers have spent millions of dollars  
5 putting their model together, and they don't  
6 want their competitors to see how they do  
7 things. So there is quite a bit of  
8 information in some of the models that is  
9 considered proprietary.

10 As far as the Florida Commission goes, as  
11 far as our review goes, we allow the modelers  
12 themselves to remove anything from our report  
13 that they consider proprietary. And that's  
14 how we got our public report. So I know  
15 people are not happy because there are some  
16 things that are proprietary that are not in  
17 the models, but that's a contention that I  
18 believe we have to allow the models to tell us  
19 what is proprietary and not. We see it and we  
20 can ask them all the questions we want to ask  
21 about the proprietary information, but -- but  
22 we have to give them the ability to remove the  
23 proprietary information so that their  
24 competitors don't get an advantage on them.  
25 This is a very intense business.

1           We've heard a lot about the Florida  
2           Commission, and the Florida Commission is --  
3           our reviews in Florida are the basis of what  
4           we did here in South Carolina. Now, we have  
5           to start somewhere, and we have like 90  
6           percent of the information that we need  
7           through the reviews that we've done for the  
8           Florida Commission. They are intense.

9           As far as the statistical and computer  
10          stuff, the other two people involved in the  
11          team in Florida -- as I said, most of that  
12          stuff, if not all of it, is transferable, but  
13          there's a lot of stuff in the vulnerability.  
14          Vulnerability means how much a certain  
15          building is damaged by certain winds,  
16          depending upon the structure of the building  
17          and depending upon the strength of the winds.  
18          And the way a modeler computes the  
19          vulnerability part of the model is -- is,  
20          generally, a lot of it is proprietary  
21          information. And we allow them to continue to  
22          make that proprietary but not to us.

23          I'd like to just give you a few things  
24          about the Florida Commission, and you can get  
25          an idea of why we use it. The mission of the

1 Florida Commission on Hurricane Loss  
2 Projection Methodology is to assess the  
3 efficacy of various methodologies which have  
4 the potential for improving the accuracy of  
5 projecting insured Florida loss resulting from  
6 hurricanes and to adapt -- to adopt findings  
7 regarding the accuracy and reliability of  
8 these methodologies for use in residential  
9 rate filings.

10 The Report of Activities, which is the  
11 Bible of the Florida Commission, is number one  
12 on our list of references, and we give you a  
13 place to go where you can get a copy of the  
14 latest or earlier ROAs from the Florida  
15 Commission. You can also get copies of the  
16 reviews that the professional team has  
17 performed on any of the models. They're all  
18 there on the Florida Commission Web site.

19 One of the most important things about  
20 the Florida Commission is that they demand  
21 that the models are accurate and reliable.  
22 And, as you can imagine, a commission of 11  
23 people and five professional team members and  
24 modelers who are allowed in the meetings  
25 coming up with definitions of accurate and

1 reliable, it took a very long time. So this  
2 is not something that just came out. This is  
3 something that's been thought out. It's  
4 something that everyone participated in that's  
5 involved in the process.

6 In the context of computer simulation  
7 models, accurate means that the models meet  
8 the standards that have been developed to  
9 assure scientifically acceptable loss costs  
10 projections and probable maximum loss levels,  
11 the standards. We have standards in Florida  
12 for actuaries, for meteorology, for  
13 vulnerability, for computer science, and for  
14 statistics. And we have many standards -- and  
15 they're tough standards. A model has to be  
16 appropriate in order to meet the standards.  
17 If any model does not meet any part of any  
18 standard, they cannot be used for ratemaking  
19 in Florida.

20 So, again, I'll go on with this  
21 paragraph. However, accurate cannot  
22 necessarily mean that a model conforms to the  
23 known facts since that contradicts the nature  
24 of the modeling process. What we're saying  
25 there is that accurate models may not conform

1 to the recent history of hurricanes in any  
2 area because the hurricane -- the recent  
3 history is just not good enough.

4 As I said, we had one modeler where the  
5 professional team made them increase their --  
6 their model years from 100,000 to 300,000, and  
7 they didn't argue with us. They knew that it  
8 had to be done. Reliable is defined for  
9 computer simulation models as meaning that the  
10 model will consistently produce statistically  
11 similar results upon repeated use without  
12 inherent or known bias.

13 It's public information that RMS  
14 submitted a short-term model to the  
15 commission, and the professional team reviewed  
16 that short-term model and determined that we  
17 believed -- we believed that the model had  
18 bias in it, and RMS was told they had three  
19 choices: They could go to the commission  
20 meeting and fight the professional team and  
21 say they're wrong, this is not biased; or they  
22 could go back to their previous model which  
23 was a long-term model; or they could just  
24 leave.

25 And RMS decided without any argument at

1 all to go back to their long-term model. So,  
2 in fact -- and we'll talk about this later --  
3 the Florida Commission has never been  
4 presented with a short-term model because it's  
5 never gotten through the professional team.  
6 And I think that's an important point for what  
7 we say later on in our report.

8 It's also important to remember that loss  
9 costs represent the insurance rate that is  
10 applicable to claim payments but not insurer  
11 expenses, reinsurance costs or profits. On  
12 top of these -- and when you're a regulator,  
13 you have got to look at the expenses of the  
14 company, and you have to look at the  
15 reinsurance costs -- the net reinsurance  
16 costs. In other words, the cost of  
17 reinsurance but you have to account for the  
18 fact that that reinsurance is going to lower  
19 the claim -- the claims for that insurance  
20 company. Maybe this is a good time to talk  
21 about what the regulator really has to do.

22 The regulator for every filing -- and  
23 sometimes it's a small filing and you don't go  
24 through all this process. But for every  
25 filing, he has to determine what is the target

1 rate of return. And the target rate of return  
2 is based upon whether that particular line of  
3 insurance is equal to or greater than the risk  
4 of average risk industries on the stock  
5 market. We're not talking about insurance  
6 risks now. We're talking about investment  
7 risks. So if you start out with a target rate  
8 of return -- and usually we can agree on  
9 that -- however, I've seen two-day hearings  
10 that are just to determine that. And many of  
11 you in the room understand that.

12 Once you determine the target rate of  
13 return, there's two parts to the filing,  
14 actually, maybe three parts to the filing.  
15 The first part is the calculation of the loss  
16 costs; in other words, the claims portion of  
17 the rate for non-hurricane stuff. And then  
18 you use the hurricane model. And the  
19 hurricane model comes in, and that is included  
20 to -- to account for the claims portion of the  
21 hurricanes.

22 Now, on the other side, you have insurer  
23 expenses, and the insurer expenses include net  
24 reinsurance costs. And those of you that are  
25 in the audience that are close to this

1 situation -- and I figure most of you are or  
2 you wouldn't be here -- understand that the  
3 reinsurers may use the short-term model. As  
4 far as the regulator's concerned, that is an  
5 expense. That's not something that is  
6 regulated by the South Carolina insurance  
7 department. The loss costs are. But as far  
8 as the reinsurance goes, the -- the net  
9 reinsurance costs can be included in the rate  
10 filing, and that is not regulated. That's a  
11 very important part of it. And maybe that has  
12 the short-term model and maybe it doesn't, but  
13 that's the way the whole thing goes. And the  
14 National Association of Insurance  
15 Commissioners has tried different ways to come  
16 up with a possible regulation of the  
17 reinsurance industry, and so far I haven't  
18 seen it.

19 There's a four -- four-phase approach to  
20 what we did. The first we did was development  
21 of a generic initial questions and requests  
22 for information sent to the modelers. In  
23 other words, we asked them questions about  
24 where do they get their hurricanes, how they  
25 determine their vulnerability. And those

1 questions were meant to determine that the  
2 models were successfully including South  
3 Carolina data, that they were -- that their  
4 model was appropriate for South Carolina.

5 After that, we had a review of each of  
6 the modelers' responses in the formation of  
7 modeler specific follow-up questions and  
8 submissions to each model. In other words,  
9 the people involved in the team -- and we'll  
10 get to that -- didn't always agree with the  
11 answers to the questions. And we believe that  
12 some of the questions needed some additional  
13 information, or some of the questions were  
14 actually being -- we were disagreeing with  
15 some of the questions. The modelers responded  
16 to that. We reviewed the responses and the  
17 modeler specific follow-up questions, and we  
18 prepared a draft report which we submitted to  
19 the insurance department. Once we reviewed  
20 all the response of the modelers to the draft  
21 report and -- we developed a final report,  
22 which the public portion you have in front of  
23 you now.

24 I wanted to tell you about the people  
25 involved that did. The initial questions --

1 and this phase based on the advice of a panel  
2 of experts, the South Carolina Department of  
3 Insurance requested a sleeve of information  
4 from the modelers. That's an important point.  
5 We didn't ask the modelers questions. We  
6 provided the insurance department the  
7 questions to be asked from the modelers.  
8 We're not regulators. These guys are  
9 (indicating).

10 Included were inquiries and exhibits  
11 relating to the meteorological, structural  
12 engineering, and actual aspects of the model.  
13 The focus of all inquiries was to determine  
14 how each model operates in developing loss  
15 costs appropriate for South Carolina.

16 The panel of experts reviewed the  
17 response of the initial inquiries by each of  
18 the modelers. A set of follow-up questions  
19 was developed for each modeler based on  
20 reviews of the initial submissions. And the  
21 focus of all these inquiries was to determine  
22 how each model operates in developing loss  
23 costs appropriate for South Carolina. That's  
24 what this whole review was. We know that  
25 these models are appropriate for Florida

1 because the three of us have been involved in  
2 enough years of those intense reviews of the  
3 models that we know that they're appropriate  
4 for Florida.

5 Upon receipt of the second set of  
6 modelers' responses, the panel of experts  
7 produced a draft report for the Department of  
8 Insurance. The panel of experts provided in  
9 findings and recommendations relative for  
10 regulating hurricane rates and, therefore, the  
11 models used to create those rates in South  
12 Carolina. That's a very important part of  
13 that.

14 The information throughout the draft  
15 report was meant to provide a transparent view  
16 of the process to those who are responsible  
17 for regulating hurricane loss costs. I'm  
18 going to say that again because many of you  
19 are thinking, well, this is an  
20 800-and-something-page report, and most of it  
21 is proprietary, so what do you mean by a  
22 transparent view? We provided a transparent  
23 view to the insurance department. That  
24 transparent view to the insurance department  
25 includes many pages of proprietary

1 information, many more pages than what's here.  
2 The full report is over 800 pages long.

3 The information throughout the draft  
4 report was meant to provide a transparent -- I  
5 did that. Proprietary information was present  
6 throughout the report.

7 The final report: In this phase, at the  
8 request of the modelers and the public and in  
9 consultation with the panel of experts, the  
10 insurance department created a summary of the  
11 draft report which did not contain proprietary  
12 information -- that's what you've got here --  
13 and made it available to the public.

14 Similarly, the Department created a set  
15 of modeler-specific reports and made those  
16 reports available to the corresponding modeler  
17 organizations. We provided them with the  
18 whole report, with all the proprietary  
19 information and all. And we just wanted to  
20 make sure that we weren't inaccurate. And we  
21 had very few responses as far as the  
22 inaccuracy. Our report was very accurate as  
23 far as the modelers were concerned.

24 And I want you to know here that the  
25 report was not -- the report looked into the

1 modelers and did describe things to the  
2 insurance department that the modelers needed  
3 to do. And that's an important part. This  
4 whole process was an educational process. We  
5 don't expect the South Carolina insurance  
6 department to know everything about the  
7 vulnerability of buildings in the state until  
8 they're provided with information to allow  
9 them to do that. We don't expect the  
10 insurance department to know what's an  
11 appropriate hurricane -- what did the  
12 appropriate number of hurricanes and what's  
13 the appropriate tracts of those hurricanes,  
14 where do they go, and what's the appropriate  
15 strength of those hurricanes until they're  
16 given something that has that information in  
17 it, and that's what this report does. This  
18 report provides information and education to  
19 those people that are responsible for  
20 regulating hurricane rates in South Carolina.

21 The modeling organizations each reviewed  
22 their modeler-specific report and provided  
23 further responses to their reports. In  
24 addition, some of the modeling organizations  
25 requested to have conference calls with the

1 Department personnel and the panel of experts.

2 We're always willing to do that. When we  
3 put a report like this together, we're always  
4 willing to correspond with the modelers. This  
5 is not a fight. This is not -- this -- it is  
6 an adversary process. You can't say that it's  
7 not an adversarial process. But it's an  
8 adversarial process that has information and  
9 input from both sides, and that's an important  
10 part.

11 The meteorological module of the model  
12 develops a picture of hurricane-related  
13 hazards based upon historical hurricane data.  
14 The historical hurricane data accepted by the  
15 Florida Commission for determining historical  
16 storm data from Florida is a HURDAT2 database,  
17 references 2 and 3, which is created and  
18 maintained by the National Hurricane Center of  
19 the National Weather Service. It's  
20 governmental information, and we require that  
21 they use the same type of information.

22 There are other governmental reports that  
23 give information relative to the speed of the  
24 models and the eye of the models and the  
25 actual size of the hurricanes. I said model.

1 I mean hurricane. And those are allowed too,  
2 as long as they come from those governmental  
3 agencies. And there are a lot of people in  
4 the government doing analyses to determine  
5 information relative to hurricanes, and that's  
6 how these models work.

7 We're not just using historical  
8 experience. We're using the historical  
9 hurricane experience to determine the  
10 frequency of hurricanes. And we're using  
11 additional national experience to determine  
12 how fast they move, how big they are, how big  
13 the eye is. All that information comes and is  
14 part of the models. The models are producing  
15 hurricanes over 300,000 or 500,000 years or  
16 100,000 years because they have a statistical  
17 way to do it with 100,000 years and do it  
18 appropriately. But they have all that  
19 information. They're creating hurricanes over  
20 that entire time period.

21 To ensure that the meteorological module  
22 is based on realistic hurricanes, the modelers  
23 produce maps of the historical hurricanes they  
24 used and then four random maps of hurricanes  
25 calculated in their model. We have pictures

1 from each of the -- of the historical -- what  
2 they consider the historical hurricanes and  
3 then their hurricanes for South Carolina.  
4 Now, when I said what they consider the  
5 historical hurricanes, that's an important  
6 point.

7 All the historical information for  
8 hurricanes is done on a six-hour basis. So a  
9 hurricane is here now, and it's here six hours  
10 later, and there's a lot of interpolation in  
11 the federal stuff, and there's a lot of  
12 interpolation in the models. And it's  
13 appropriate. There's nothing wrong with that.  
14 You can't -- you can't take the information of  
15 a model every two seconds. There's just not  
16 enough computer power anywhere to do that. So  
17 there's interpolation done by actuaries, and  
18 we also look at the way models do that  
19 interpolation to make sure that it's  
20 appropriate.

21 The meteorological model produces a  
22 spatial distribution of hurricane wind risk.  
23 That means where they are. That's a -- that's  
24 a highfalutin way of saying where the  
25 hurricanes go. That includes information on

1 the intensity of the hurricanes -- that's the  
2 maximum winds -- its size, the area of  
3 damaging winds, and its track which gives the  
4 speed and direction of the storm motion. A  
5 faster moving hurricane will have very  
6 different wind speeds to the right, faster,  
7 compared to the left, slower, if you're  
8 looking toward the direction it is moving.  
9 This asymmetry will be proportionately less in  
10 a slower-moving hurricane. We make sure that  
11 they include an appropriate way to determine  
12 the asymmetry.

13 In other words, hurricanes aren't round.  
14 They're moving, so there's something pushing  
15 on the front, and when they're moving, the  
16 winds on the left are -- are different because  
17 you've got winds coming in, and you've got  
18 direction. It's moving. So the moving of the  
19 hurricane is what changes the winds from the  
20 right-hand side to the left-hand side.

21 The damaging winds calculated in the  
22 meteorological module also reflect a  
23 geographical distribution of hurricane wind  
24 risk that incorporates information relative to  
25 the distance of the insured property from the

1 hurricane track. Every one of those  
2 hurricanes, every one of those buildings, the  
3 models are determining the distance from the  
4 hurricane to the building, and we'll get into  
5 the damage this caused later because that's in  
6 the vulnerability portion.

7 From the time a storm crosses the coast,  
8 the hurricane winds generally decrease as that  
9 storm moves inland, no matter what's there, no  
10 matter what kind of properties are there. As  
11 soon as the hurricane comes from water to  
12 land, it loses the generation of that water,  
13 and it slows down. And the further it goes  
14 inland, the more it slows down.

15 This weakening of the hurricane will be  
16 modified by the properties of the land itself,  
17 referred to as land use and land cover. In  
18 other words, a hurricane will move faster over  
19 a lake than it will over a city. That's  
20 really what we're saying, that what's on the  
21 land determines whether the hurricane speed is  
22 going to slow down.

23 We talk a lot in the Florida Commission  
24 about the land use, land cover. And we make  
25 sure that the models are using fairly recent

1 land use, land cover because in every state  
2 that land use is changing. As homes are being  
3 built, as -- as homes are big torn down, all  
4 those things affect the hurricane speed so  
5 that the land use, land cover needs to be  
6 updated fairly frequently.

7 For example, the winds for a hurricane  
8 moving over a lake will remain faster than the  
9 winds of a hurricane moving over a forest or  
10 densely populated area. However a rough  
11 surface can also make winds gustier. The net  
12 effect is likely to be slower winds in general  
13 but with the occasional very strong gusts, and  
14 that's what was experienced in Hurricane Hugo.  
15 Hurricane Hugo went a long time inland and  
16 still caused damage. We all know that, which  
17 is really different. And what it was, was a  
18 lot of wind gusts rather than the wind itself.  
19 And the damage is the same whether it's gusts  
20 or not, and the models do account for that.  
21 They are able to account for that.

22 The vulnerability of the module, that's  
23 the next part. Once we've determined that the  
24 winds are appropriate, we have to determine  
25 that the properties are appropriate. The

1 vulnerability module typically addresses the  
2 following aspects of the hurricane risk:  
3 Separation of property vulnerabilities and  
4 losses into the vulnerability of buildings,  
5 pertinent structures, contents, and additional  
6 living expense or time element; in other  
7 words, the coverages that are provided in the  
8 homeowners policy. So we have to break down  
9 the losses into those categories.

10 And the modelers do that, and we check  
11 how they do that. And, generally, the  
12 building damage is used as a reference to  
13 determine the contents and additional living  
14 expense.

15 But if you look at the fact that they do  
16 have a lot of historical hurricane experience  
17 relative to the contents losses, relative to  
18 the building or structure losses, and that's  
19 why that that's the best way to do that, the  
20 construction practices in any given locale or  
21 state and the applicable building codes and  
22 the enforcement of the building codes.

23 Building classification: A set of  
24 primary characteristics of a building that  
25 influences the vulnerability to hurricane

1 hazards is used to classify the building stock  
2 into the various classes. The building stock  
3 is the determination of what kind of buildings  
4 are in a specific area, and that's very  
5 important because the building stock is what  
6 is being damaged. So it's very important to  
7 have the appropriate building stock.

8 Buildings in each class generally perform  
9 similarly in a given hurricane environment; in  
10 other words, frame buildings definitely --  
11 generally -- generally, are damaged more  
12 than -- than masonry buildings in a hurricane.  
13 We have a lot of experience to be able to  
14 determine what that difference is, but we need  
15 to know how many -- how many frame buildings  
16 there are in an area and how many masonry  
17 buildings there are in an area. So you take  
18 the building stock, and you know how that --  
19 those properties are going to be damaged by  
20 each hurricane in the model. And hurricanes  
21 in the model are called the stochastic  
22 hurricanes.

23 For any state, such classifications must  
24 be able to appropriately model the majority of  
25 building stock in that state. The aspect of

1 the vulnerability module generally remains the  
2 same across southeastern states. Secondary  
3 characteristics within the general building  
4 class that might influence the performance of  
5 buildings in that class. The models have a  
6 determination of how many buildings in that  
7 building stock are -- have modifications or  
8 mitigation.

9 They have different parts of mitigation.  
10 The building is structured in such a way that  
11 it's more resistant to hurricanes or a certain  
12 percent of the population has mitigated  
13 buildings so that they are less damaged by  
14 hurricanes.

15 The secondary classifications within a  
16 general building class, we look at those, and  
17 we look at the way the models account for  
18 those. So you're looking at every hurricane  
19 over a 300,000 year period that is created by  
20 the model, and you're looking at every  
21 building that is damaged by that hurricane  
22 relative to the information that we can  
23 gather, the building stock.

24 Mitigation features are those aspects of  
25 the building that are added to a building at

1 the time of construction, or after  
2 construction, of a building to reduce  
3 potential losses from hurricanes. The  
4 vulnerability module of each hurricane model  
5 is reviewed to determine if South Carolina's  
6 specific issues are addressed appropriately.

7 And you will see in some of the public  
8 information that there are occasions when some  
9 of the building codes are not appropriately  
10 accounted for in these models. Now, the  
11 building codes that are not accounted for, the  
12 models say are minimal. There's very little  
13 change.

14 There's change relative to windows, and  
15 the -- the building of windows, putting the  
16 windows that are more resistant to hurricanes,  
17 and there's also some changes relative to the  
18 roof structure. There are minimal changes,  
19 but I don't care whether they're minimal  
20 changes or not. If they don't account for  
21 these changes, as minimal as they might be,  
22 then I believe the model is biased. And  
23 you'll see some of that in our report, and I  
24 believe some of the modelers will be changing  
25 their models to account for the 2006 building

1 code.

2 Now, there's not a lot of buildings that  
3 were built since 2006 anywhere. And, in fact,  
4 the 2006 building code really took affect in  
5 2008. So you don't have a lot of buildings,  
6 and it's not a lot of difference, but it  
7 should be accounted for. All of the building  
8 code changes should be accounted for.

9 And my comment to any modeler that says  
10 it's just minimal is that somebody passed a  
11 building code, and they expected something to  
12 happen. They expected the hurricane loss  
13 costs to decrease when they passed that  
14 building code. And it might not be a lot, but  
15 if you don't account for it, that's a bias in  
16 the model.

17 I hope nobody thinks I'm picking on any  
18 models, but I may not have enough time to get  
19 through this whole presentation. I want to  
20 talk about some of the individual things that  
21 we found in individual models.

22 The AIR model, for example, they  
23 incorporate information from NOAA Technical  
24 Memorandum, NWSNHC6, and this report is issued  
25 by the National Hurricane Center. So the use

1 of this report to justify modifications to the  
2 historical information is appropriate. It's  
3 reasonable. It's appropriate. The AIR model  
4 provides a reasonable representation of the  
5 distribution of hurricane intensities at  
6 landfall by Saffir-Simpson category for  
7 hurricanes affecting South Carolina.

8 The Saffir-Simpson scale is the NOAA --  
9 it was designed to provide guidance from  
10 expected property damage resulting from  
11 passage of a storm of given insensitivity.  
12 The Saffir-Simpson scale is really public  
13 information. None of the modelers would use  
14 the Saffir-Simpson scale, but it's good public  
15 information. And it's the kind of information  
16 that we get many questions about. But the  
17 Saffir-Simpson scale is just a way to show you  
18 how damaging winds can be.

19 The number of AIR model hurricanes making  
20 landfall in South Carolina tends to have more  
21 storms in the higher intensity categories than  
22 in the historical record. However, the  
23 distribution is reasonable with 64 percent of  
24 modeled storms making landfall as Cat 1 or Cat  
25 2 compared to 72 percent of the historical

1 storms.

2 I talked about this earlier. We don't  
3 expect these models to have the exact history  
4 of hurricanes in South Carolina. Keep in mind  
5 that we have 113 years of reasonable history.  
6 We don't believe that the -- that the  
7 information before the year 1900 is  
8 reasonable.

9 We don't expect the models to be exact.  
10 They cannot -- if they're exact, then  
11 something is wrong. That's 113 years, and  
12 keep in mind we made one model change from  
13 100,000 to 300,000 years. And that just gives  
14 you an idea of what 113 years of experience is  
15 worth.

16 I'm going to stop now and see if there's  
17 any questions -- I'm sorry -- to see if there  
18 are any questions. Thank you.

19 MS. MCGRIFF: I'm sorry, Marty. I know  
20 you covered a lot of this stuff in the  
21 presentation, and I am cognizant of the fact  
22 we only have five minutes before we have a  
23 scheduled break.

24 MR. SIMONS: That's why I stopped. I  
25 could have gone on for another hour.

1 MR. FARMER: We know.

2 MS. MCGRIFF: One of the things that you  
3 did early on was that you said that the  
4 process in Florida formed the basis for the  
5 reviews here in South Carolina, and I think  
6 that Mark Brannon also indicated that  
7 probably -- and I know you work for -- you've  
8 done work for Massachusetts, Florida, and some  
9 other jurisdictions as well.

10 MR. SIMONS: Maryland, Hawaii.

11 MS. MCGRIFF: Maryland, Hawaii. And I  
12 guess my question is, if -- I think you made  
13 the comment that states should never rely  
14 solely on historical data. And if those are  
15 the only states that are using -- are engaging  
16 in a similar process, what are states like,  
17 you know, Hawaii -- not Hawaii -- New York and  
18 other jurisdictions doing to basically, I  
19 guess, verify the loss costs? In looking at  
20 the loss costs, what are they doing?

21 MR. SIMONS: I guess the best answer I  
22 could give you is they're waking up.

23 MS. MCGRIFF: Okay.

24 MR. SIMONS: They're beginning to look at  
25 this process. I understand New York is

1 beginning to look at this process. I can see  
2 no other way to do this other than use the  
3 Florida Commission's work as a basis.

4 MR. BRANNON: And I think it is. That is  
5 the basis of most -- where most states start.  
6 Some states just still rely on that.

7 MR. SIMONS: There's no other way to do  
8 it. There's no other way to just start from  
9 scratch because how are you going to  
10 determine, for example, that the statistical  
11 parts of the model are appropriate when you  
12 have one massive hurricane like Katrina in a  
13 place like Louisiana that -- when do you  
14 expect that to occur again? You have to use  
15 some sort of scientific knowledge to be able  
16 to determine that it might occur again, but it  
17 might occur sometime in the next X number of  
18 years. There's no other way to do it.

19 MR. FERGUSON: Marty, I do have a  
20 question.

21 MR. SIMONS: I knew you would.

22 MR. FERGUSON: And I applaud the staff,  
23 going through this exercise. I think it's  
24 needed. I think it's valuable. And I'm also  
25 very much aware of your distinguished

1 background. But that being said, this report  
2 is probably the most difficult report a common  
3 person could read in the world. And I'm not  
4 trying to be super critical here. I'm just  
5 saying it doesn't come up with any executive  
6 conclusions.

7 I think what the expectation should be  
8 is, one, what are the three most important  
9 findings; two, what's their impact; and,  
10 three, what recommendations. You don't get to  
11 that. And I don't think it answers  
12 proprietary coverage because we don't need to  
13 know which company you're talking about. You  
14 can redact that. But what were the findings?  
15 What were the three things, very simply put,  
16 that you found out that were significant, and  
17 what are the three things that you would  
18 recommend?

19 MR. SIMONS: There are certain things in  
20 the report that do say -- recommended that the  
21 Department do in the future.

22 MR. FERGUSON: But, specifically, what  
23 are your three most important findings?

24 MR. FARMER: Mr. Ferguson, I'm going to  
25 ask you to hold that question until after

1 Will Davis speaks because he'll -- he'll have  
2 recommendations as we've gleaned from the  
3 report. And that's a great question, and  
4 we'll get the answer to it. And Marty will  
5 still be here to add his answers to that.

6 Before we take a break though -- and I  
7 know human nature. Some of us may not be back  
8 after the break -- there's one thing I really  
9 want to cover. Marty you -- and that is, you  
10 know, my goal in this exercise is to be as  
11 transparent as possible. And I understand  
12 that there's proprietary and trade secret  
13 information in the reports.

14 The code prohibits the Department from  
15 divulging any proprietary and trade secret  
16 information. And you've already said this  
17 once, but tell us again the process on  
18 redaction.

19 MR. SIMONS: The process on redaction was  
20 to give the modelers the opportunity to redact  
21 what they thought was proprietary. And,  
22 Mr. Ferguson, you should be aware of  
23 proprietary information in business because  
24 they don't want their competitors to see what  
25 they're doing.

1 MR. FARMER: Well, he understands that,  
2 and I understand that. But you looked at four  
3 modelers. One, ARA, wants to be used, and  
4 they put themselves through this exercise, and  
5 they provided just -- answered just about  
6 every question. And I'm not so sure they  
7 asked for anything to be redacted.

8 MR. SIMONS: I think they have one thing  
9 redacted.

10 MR. FARMER: Okay. One thing.  
11 AIR-Worldwide, RMS, basically the same thing.

12 MR. SIMONS: Yes, sir.

13 MR. FARMER: I feel that the actions of  
14 one modeler, EQECAT, just went to great  
15 extremes to thwart our exercise in this in  
16 that they've asked -- and I understand the  
17 process -- but they asked for just about  
18 everything -- especially on the vulnerability  
19 module, everything to be redacted.

20 That's not acceptable. I know we have  
21 the information at the Department, and we've  
22 looked at it. We've used it. But the public  
23 itself can look at that redaction and say how  
24 in the world can the Department put up with  
25 that? Well, we're not. As of right now, we

1 have two models that are accepted:  
2 AIR-Worldwide and RMS. We'll get additional  
3 information from ARA to help them through the  
4 process.

5 And before the close of the record on  
6 October 31st, I expect we'll have additional  
7 information from EQECAT to allow them to  
8 continue to use -- be used as a model. But  
9 right now, they're not.

10 MR. SIMONS: I agree with you.

11 MR. FARMER: And this is a process that  
12 we've gone through to be transparent.  
13 Evidently, they didn't understand that. We  
14 will have a conversation with them, I'm sure,  
15 within the next few days. And at some point,  
16 I expect them to be used as a model but not  
17 under these circumstance.

18 MR. SIMONS: I agree with you. There  
19 should be some more information made available  
20 to the public.

21 MR. FARMER: We'll take a ten-minute  
22 break.

23 (A recess transpired.)

24 MR. FARMER: Our next speaker is  
25 Will Davis, actuary of the Department of

1 Insurance. When he concludes, we'll have  
2 availability for questions for all three of  
3 the presenters at this point. But, Will, go  
4 ahead.

5 PRESENTATION BY MR. DAVIS

6 MR. DAVIS: Thank you. All right. I've  
7 probably got about 20 slides and about  
8 20 minutes to do this thing. Please --  
9 apologize if I go a little quick. Certainly,  
10 make a note of any questions you might have  
11 and get us at the end, but I want to make sure  
12 I get through this.

13 I'm Will Davis. I'm the property  
14 casualty actuary for -- as Director Farmer  
15 said. I'm a fellow of the Casualty Actuarial  
16 Society. I'm also a member of the American  
17 Academy of Actuaries. I teach a class on risk  
18 management at USC as well. And as I tell my  
19 students, I've been doing pricing work for  
20 probably 19 or 20 years of my 24-year career.  
21 So it's just where I wound up at the  
22 Department, and I've been here about three  
23 years.

24 Thank you, Marty, and your panel for the  
25 work that you did. Thanks, Mark, for what you

1 had to say. And I appreciate all of you guys  
2 being here to participate.

3 I'm going to basically cover four areas  
4 here and briefly reiterate the models that  
5 were reviewed or at least give you the names  
6 of them. I'll discuss the recommendations  
7 that were made by the panel to the Department.  
8 That's really my task here. A comment was  
9 made a while ago about what are the takeaways,  
10 what are the recommendations here, where's --  
11 this is the summary. This has kind of been my  
12 task, is to take this report, both the private  
13 and the public, and to put together a list of  
14 action items for the Department -- or at least  
15 recommendations for the Department to  
16 consider. And what I will do is go down these  
17 recommendations one by one, and I'll give you  
18 my -- you know, I'll tell you here's what we  
19 are doing, or will be doing, in relation to  
20 each of these.

21 The recommendations -- there are six  
22 recommendations at the very beginning that are  
23 general in nature, and then each modeler,  
24 there are some specific recommendations made  
25 for each modeler. So there are four modelers

1 that submitted information for the review by  
2 the panel: AIR-Worldwide Corporation, Applied  
3 Research Association, or ARA; EQECAT; and Risk  
4 Management Solutions, or RMS. Now, I will say  
5 AIR or ARA or EQECAT or RMS. I will all say  
6 DOI -- I will also say SCDOI, or I might say  
7 DOI. I might say Department of Insurance. If  
8 I say any of those three things, it means us,  
9 okay? It just depends on what you're saying,  
10 which term I'll use. Stick with me, people.

11 So six general recommendations: There  
12 were three recommendations made specifically  
13 to AIR's model, two for ARA, five specific to  
14 EQECAT, and two specific to RMS.

15 The first general recommendation: The  
16 Department of Insurance should not accept  
17 historical claim data for hurricanes as the  
18 sole basis for indicating rates that are not  
19 excessive, inadequate, or unfairly  
20 discriminatory.

21 As Marty said, that's the statutory  
22 requirement in South Carolina. Rates should  
23 not be inadequately excessive or unfairly  
24 discriminatory. And we understand this  
25 recommendation. And it is the case that South

1 Carolina doesn't generally accept hurricane  
2 database for the sole basis of its ratemaking.  
3 Carriers rarely make filings without modeled  
4 results these days, as you've heard from these  
5 experts. This science has been around for a  
6 little while, and carriers, for the most part,  
7 take advantage of it.

8 Let me back up a step. Sorry. Because  
9 this is Marty and Marty's panel of  
10 recommendations, I've basically asked Marty,  
11 will you please interrupt me if you think I've  
12 misunderstood something. I think that's very  
13 important. You know, I'm basically putting  
14 into my own words what I think this panel has  
15 told us, but, certainly, Marty, feel free if  
16 at any time you hear me say something you  
17 don't agree with or you think I've got  
18 wrong --

19 MR. SIMONS: Count on it.

20 MR. DAVIS: Okay. We're there. Okay.  
21 All right. So back to this first  
22 recommendation -- and, as I said, we agree  
23 with this, and we very rarely see filings that  
24 do this. Filings that we receive generally  
25 base their rates on maybe some combination of

1 historical data and model results.

2 So the second recommendation: Models  
3 that include tropical storms and depressions  
4 in their stochastic storm sets should not be  
5 approved for use in South Carolina. Such  
6 inclusion of tropical storms or depressions  
7 could result in a double counting of the  
8 effects of those storms; once in the modeled  
9 hurricane losses and once again in the rate  
10 development for other than the hurricane  
11 portion of the ratemaking process.

12 I guess the way I would say this is we  
13 don't want losses double counted in the rates.  
14 That's a simple way to say that. If a model  
15 produces data or losses from tropical  
16 storms and the insurance company's data  
17 actually has these storms, some losses from  
18 storms that are tropical storms, you'd be  
19 double counting. We don't want that either.  
20 We don't like that either, so we agree with  
21 that.

22 Modeled output is not general -- does not  
23 generally contain information from tropical  
24 storms in filings that we receive. When it  
25 has been, the Department staff ensures that

1           there's no double counting of tropical storms.  
2           In other words, if there's some data, some  
3           model tropical storm data, in the past we've  
4           basically made sure that there was no losses  
5           in the actuals, so there's not been any double  
6           counting.

7           Third general recommendation: Department  
8           should not permit the use of any of the  
9           following model variations: Short term, near  
10          term, medium term, warm phase, warm water --  
11          I've heard warm sea surface temperatures as  
12          well. This is consistent with the practices  
13          of the Florida Commission. As the panel  
14          states, quote, if shorter segments or other  
15          subsets of the historical records are used,  
16          the resulting loss costs will be even more  
17          sensitive to changes in an individual event.

18          I inserted that word resulted, but I  
19          think it made sense there.

20          The goal for using modeled results, aside  
21          from getting all the science that we know, is  
22          to produce some sort of an estimating tool  
23          that'll be stable over time. And what the  
24          panel's comment here -- the way I read the  
25          panel's comment here, hey, if you throw out

1 years of experience, you make the results that  
2 much more volatile year in and year out. Any  
3 time a new year's worth of experience is  
4 added, the results will be less stable and  
5 more sensitive to the new data.

6 So we -- the Department doesn't permit  
7 the use of short term, medium term, et cetera.  
8 We insist that carriers use long-term view in  
9 their models, long-term view of the hurricane  
10 exposure for this specific reason.

11 So the fourth general recommendation:  
12 With each filing of the hurricane rates, the  
13 Department should obtain a model-specific  
14 output report.

15 I believe Marty reviewed over that  
16 earlier, but it is referred to in the report  
17 numerous times.

18 Output report containing sufficient  
19 detail to determine whether the modeler or  
20 filing insurer has made adjustments or  
21 assumptions outside of the workings of the  
22 model, which may or may not be reasonable,  
23 including but not limited to storm surge,  
24 demand surge, and exclusion of or  
25 modifications to any records from the filer's

1 exposure data set.

2 The modeler or the filing insurer should  
3 provide details to the regulator as to how to  
4 locate the desired information in the output  
5 report. Filings that omit these reports, per  
6 the panel, should not be approved by the  
7 Department.

8 Well, fortunately, all of the referenced  
9 modelers have offered to explain, to discuss,  
10 the contents of these so-called output  
11 reports. They have different names just  
12 depending on which modeler they are, but they  
13 all have a report like this. And they've all  
14 offered to come to us and explain to us what  
15 is contained in these reports and to help us  
16 to sort of interpret it. Honestly, I don't  
17 know that I've looked at one in quite a few  
18 years, and I can just imagine the format of  
19 them might be very different for the different  
20 modelers. Thankfully, they've graciously  
21 agreed to come explain it to us. We agree  
22 with Marty; we need to see what -- we need to  
23 see if any modifications were made outside of  
24 the way the model is supposed to be run -- or  
25 intended to be run by the modelers.

1           The fifth general recommendation -- I  
2           promise you they don't get longer on purpose.  
3           It just happened that way: Models may include  
4           a certain percentage increase in the loss  
5           costs to allow for items such as storm surge  
6           losses that are considered as wind losses in  
7           the actual claims data. These adjustments are  
8           outside of the review by the panel and are not  
9           generally permitted by the Florida Commission.  
10          If there's an amount to be added to the South  
11          Carolina hurricane insurance rates, according  
12          to this panel, that amount should be  
13          determined by the Department with input from  
14          those that are affected, including the modeler  
15          but not only the modelers.

16          So this is storm surge. Without getting  
17          too detailed, this is basically an argument  
18          in, if you watch the news about when storms  
19          occur, you say is the flood policy paying for  
20          it, or is the insurance policy paying for it,  
21          you know, the policy that's bought in the  
22          marketplace. And that's the problem here.  
23          Losses that are storm surge losses would be  
24          considered to be flooding. If a policy  
25          doesn't cover the flood exposure, it wouldn't

1 the recommendations provided by the panel. I  
2 mean, that's true. We don't have a process  
3 for what happens when AIR wants to update  
4 their model. What do we do? And this is what  
5 the panel says. What are we going to do? I  
6 guess I would say -- my comment is this: Our  
7 management and staff will consider all the  
8 recommendations that the panel has made and as  
9 we try to determine a process for determining  
10 the acceptability of future model revisions.

11 I think Mark Brannon was asked the  
12 question, how often should we do this. I  
13 think that's part -- that question's  
14 intertwined with this, how often -- how often  
15 do we have to commission a panel? And, to be  
16 frank, I don't know the answer to that, and  
17 I'm not going to stand up here and try to act  
18 like I do. But going forward, I don't want  
19 the regulatory process to grind to a halt  
20 every time a modeler comes out with a new  
21 version. And I don't think this panel  
22 intended for that either, and that's what this  
23 panel is trying to say, hey, Will, you and  
24 your guys over there, here's a way to do this.  
25 And I think we've got information from them.

1 be in there, or it's not covered by the  
2 policy.

3 And, as Marty says in his -- as Marty and  
4 his panel says in the report, yeah, maybe some  
5 storm surge losses or maybe some wind losses  
6 really get coded expenses, but maybe some  
7 storm surge losses ought to get coded as wind.  
8 So we don't really know. So what the  
9 Department's done is very simple. We don't  
10 allow storm surge losses to be included in the  
11 data.

12 We have -- we have a set of filing  
13 exhibits that we require insurers to complete,  
14 a set of interrogatories for them to answer,  
15 and also a set of exhibits for them to  
16 complete. And this is one of the questions on  
17 there, we say: Do you include storm surge  
18 losses in you data? And, by the way, we don't  
19 permit that, right after that.

20 The final general recommendation, number  
21 six: The panel understands that there's no  
22 mechanism currently in place to address future  
23 model revisions for South Carolina. It is  
24 recommended that DOI develop a procedure to  
25 address future model revisions, incorporating

1 We'll have to follow up with the panel on some  
2 of it, and, you know, we'll have to see what  
3 does it cost, what personnel do we need, you  
4 know, if there's any of that stuff.

5 So there's all the cost stuff related to  
6 it, but that is a position of management  
7 and -- is that us and the staff will go  
8 through this and try to figure out a way where  
9 we can go forward and figure out a way -- like  
10 I said, we don't -- this thing doesn't grind  
11 to a halt every time a model is revised. And  
12 that's it for the general recommendations.  
13 We're about halfway through.

14 Okay. No particular order -- maybe it  
15 was in the order that was in the report, but  
16 AIR's the first model. The first -- the first  
17 specific recommendation for their model was  
18 that we permit carriers to use the Atlantic  
19 Tropical Cyclone Models, Version 12.0.1 and  
20 Version 14.0.1. The panels said those are  
21 acceptable for applications in South Carolina  
22 rate filings. We have allowed those versions  
23 and will continue to allow those versions to  
24 be used.

25 Two for AIR: Department should require

1 filing companies to provide detailed  
2 justification for their rates when using the  
3 AIR model with regard to regional and temporal  
4 variations and vulnerability due to variations  
5 in building codes and regional wind speed,  
6 specifically pre- and post-2006 building code,  
7 which are implemented -- somebody help me --  
8 was the commercial implemented in '08 and the  
9 residential was implemented in '9 -- is that  
10 right, 2009?

11 Okay. So even though it's a 2006  
12 building code, Marty said a while ago, you  
13 know, there's not been a lot of buildings  
14 built. That's what we mean. You know, if the  
15 code wasn't put in until 2009, relatively  
16 speaking, had much -- what are we dealing with  
17 now? How big of a problem is this?

18 The Department's going to confirm with  
19 this modeler, and we'll say this again with  
20 another one. We're going to confirm with them  
21 how carriers can make appropriate  
22 modifications because it's my understanding  
23 that there are ways for the carriers to make  
24 modifications in each of their filings. I  
25 don't think I'm putting words in Marty's mouth

1 when I say the panel would rather see the  
2 modelers make these adjustments. And so my  
3 comments here -- the way I put this into my  
4 words -- it's not the panel's preferred  
5 approach. They'd rather see the modeler make  
6 these changes, but the individual carriers  
7 have the ability to make specific  
8 modifications when they each run the data.

9 It's just it puts the onus on each  
10 individual carrier to understand how to do  
11 that, and, by the way, it puts the onus on us  
12 as a regulator to understand how to interpret  
13 that data -- you know, to get that data and  
14 interpret it.

15 So before we implement anything like  
16 this, we will have to determine if AIR -- if  
17 AIR and these other modelers as well -- if  
18 they're going to change anything in their  
19 model, and we'll have to determine what's  
20 necessary in the meantime, you know, what is  
21 sufficient and reasonable justification.  
22 That's kind of something we'll have to  
23 determine, and we'll work with the panel and  
24 work with the modelers to figure out what this  
25 is.

1           Third and final specific recommendation  
2           for AIR: Department should require filing  
3           companies using the AIR model to declare  
4           whether storm surge losses -- skip this one --  
5           we don't allow that. I've already said that,  
6           but I'll go ahead and read it anyway -- make  
7           sure the storm surge losses include the loss  
8           costs use for ratemaking and provide the  
9           extent and justification for such inclusion.

10           AIR agreed. AIR says we encourage the  
11           DOI to ask for the log to gain insight into  
12           the storm surge assumption included in the  
13           ratemaking analysis. And the panel, of  
14           course, agreed with that. And, like I said, I  
15           can short circuit that one because we don't  
16           permit the inclusion of storm surge loss. So  
17           that wraps up the specific recommendations for  
18           AIR.

19           The next model dealt with in the report  
20           is the ARA model. There are two specific  
21           recommendations for them. HurLoss 6.0,  
22           according to the panel, should be allowed to  
23           be used for filings in South Carolina.  
24           However, the panel has determined that three  
25           issues should be addressed: Treatment of

1 tropical cyclones that do not reach hurricane  
2 strength -- I alluded to this a minute ago,  
3 and I think Marty spoke to it as well --  
4 treatment of unknown masonry residential  
5 structures, that is, masonry residential  
6 structures that are not identified as  
7 unreinforced or reinforced. Obviously,  
8 there's not -- well, maybe not obviously, but  
9 the damage tendency for unreinforced, which is  
10 reinforced masonry, is different than the  
11 report talks about. And this is an  
12 outstanding issue with this model. And the  
13 treatment of the 2006 South Carolina building  
14 code.

15 No carriers have used this model to  
16 support rates in South Carolina. ARA  
17 requested to be a part of this model review  
18 process in order to establish whether or not  
19 their models would be acceptable for use. I  
20 haven't had a lengthy discussion with them.  
21 I'm just speculating that's why they're -- I  
22 mean, why would you want to go through this,  
23 right, Marty? Why would you voluntarily put  
24 yourself through a process like this unless  
25 you had -- you're trying to get business in

1 the area? That is my assumption, that they  
2 want their model to be able to be used in the  
3 state.

4 So the second recommendation here: If  
5 HurLoss 6.0 is used for rate filings, filing  
6 companies should provide resolutions and  
7 justifications with regard to the above  
8 issues, right?

9 Panel says we have a problem with that.  
10 There's three problems with it. But if you  
11 can figure out a way to deal with these three  
12 problems, it will be acceptable because  
13 apparently the rest of the model was  
14 approved -- I mean is acceptable and does a  
15 good job. So ARA has agreed to resolve the  
16 above issues in their Version 6.1.

17 Once this is implemented, the panel of  
18 experts suggested the DOI review the above  
19 listed inclusions. So if and when carriers  
20 incorporate model losses using Version 6.0,  
21 we'll do as such. We'll ask for that  
22 justification.

23 Upon the implementation of Version 6.1,  
24 the Department will review these improvements  
25 for acceptability in rate filings.

1           So that's it for ARA specific  
2           recommendations. EQECAT, next up. First  
3           specific recommendation for that model:  
4           Recommended that WORLDCATenterprise Version  
5           3.16, which includes Florida Hurricane Model  
6           2011A, which was accepted by the Florida  
7           Commission with an expiration date of  
8           September '13, may be used for rate filings in  
9           South Carolina.

10           Department already has allowed and will  
11           continue to allow -- may continue to allow, at  
12           some point, these model versions to be used  
13           for ratemaking purposes. That's subject to  
14           what the director said a while ago. I'm not  
15           going to talk about that. But under the  
16           assumption that they give us some information  
17           and we determine their model can be usable, we  
18           will continue.

19           Second recommendation for them: If the  
20           larger versions, WORLDCATenterprise Versions  
21           3.16 and 3.13, are used for rate filings in  
22           South Carolina, documentation should be  
23           required in the rate filing to specify the  
24           review of risk -- this is the long-term versus  
25           short-term -- and to document and justify the

1 differences in hurricane risk models between  
2 the Florida-specific models and the South  
3 Carolina models. As we have for quite a  
4 while, we will continue to only permit the  
5 long-term view of hurricane risks.

6 Subject to the -- got ahead of myself.  
7 We will consult with the panelists and this  
8 modeler as appropriate to determine how these  
9 cited differences might be documented and  
10 justified. You know, it's easy for me to sit  
11 here and say, the panel said you should make  
12 sure they've documented and justified. And  
13 it's easy for me to say it. We'll make sure  
14 we get it documented and justified but how --  
15 it's the practical matter of how do you get  
16 that done. Kendall acknowledged, you can't  
17 just nod at that. You've got to actually --  
18 take a little work, get the detail out. But  
19 that is what we're saying. We will work to  
20 get the detail and figure out exactly how to  
21 do that.

22 Third EQECAT specific: Recommended that  
23 if and when RQE Version 14, which was approved  
24 by Florida on August 2013, if and when it's  
25 used for rate filing in South Carolina, there

1 are some differences at the zip code level  
2 that should be satisfactorily detailed and  
3 explained. It's in the public version.  
4 There's a couple of zip codes that had a  
5 little bit of inconsistencies according to the  
6 panels. And -- but the panel basically said,  
7 hey, make sure you understand what's going on,  
8 and make sure it's corrected before you go  
9 forward.

10 To my knowledge, we haven't received any  
11 filings using that -- using that model yet. I  
12 could be wrong, but I don't think we have.  
13 But when we get rate filings that incorporate  
14 this model, we will require that such  
15 explanation's provided and that we're  
16 satisfied with the stated concerns that the  
17 panel has addressed.

18 Fourth for EQECAT: While the entire  
19 hurricane database was used in developing the  
20 model, the landfall frequencies for the  
21 stochastic hurricane set are lower for weaker  
22 storms and more frequent for more intense  
23 hurricanes including Category 5 systems. The  
24 panel said these frequency variations are  
25 acceptable. Marty said, no model -- if the

1 model reproduced history perfectly, they'd be  
2 overfed, I guess might be the right word to  
3 use -- right? There would be something wrong.  
4 You ought to be suspicious if it gave you  
5 exactly history. It ought to just give you  
6 something that kind of looks like history,  
7 something that's kind of acceptable and say,  
8 okay, it's not exactly the same, but it's  
9 reasonable.

10 So that's what this panel has said right  
11 here. The frequencies aren't exactly the same  
12 across categories of storms, but they're  
13 reasonable. However, they point out to us  
14 when this model gives you an updated version,  
15 you ought to look at this and make sure that  
16 you feel comfortable that -- when a new model  
17 is submitted that these differences are not, I  
18 guess, unacceptable.

19 We will consider this recommendation as  
20 we determine the process for determining the  
21 acceptability for future model revisions.  
22 This is part of that whole process, how do we  
23 deal with a model revision going forward.

24 I got three minutes. I've got three  
25 sides.

1 Fifth specific recommendation: In order  
2 to reflect differences in structural  
3 vulnerability due to regional and temporal  
4 variations, it's necessary for filing  
5 companies using RQE 14 version to use  
6 Secondary Structural Modifiers to reflect such  
7 variations.

8 I capitalized that because that's a term  
9 that EQECAT used to talk about these  
10 modifiers. The panel judges -- this is an  
11 acceptable approach, and this is like what I  
12 said in the earlier model. It's acceptable,  
13 but they don't -- they'd rather see the  
14 modeler do it themselves; in other words,  
15 don't make every carrier make all these  
16 specific modifications, change the model  
17 itself.

18 But the panel says: Nevertheless, if  
19 they do make these individual modifications at  
20 the company level, it would be acceptable. In  
21 other words, it would still generate good  
22 estimates.

23 MS. MCGRIFF: That refers to the building  
24 code information, right?

25 MR. DAVIS: That's right. When I say

1 temporal variations, basically, I mean time --  
2 timewise, pre-implementation of the '06  
3 building code versus post. So this is back to  
4 that building code issue. It's here as well.

5 The Department will confirm with EQECAT  
6 how to verify that the appropriate  
7 modifications have been made. Yes, we're  
8 going to follow up with them to see if they  
9 planned this model -- this issue in the model  
10 itself or if it's going to be required for  
11 carriers to make these secondary structural  
12 modifications. Obviously, if these are  
13 necessary, we're going to have to get EQECAT  
14 to explain to us, here's what these  
15 modifications should look like. We'll talk  
16 about it with the panel as well. Okay.  
17 That's it for EQECAT.

18 Got two specific recommendations for the  
19 RMS model: It's recommended that RiskLink  
20 11.0 SP2c -- which was accepted by the Florida  
21 Commission in 2012 -- it's recommended that  
22 that model be used for South Carolina rate  
23 filings. Any differences from Florida in  
24 modeling properties in South Carolina should  
25 be documented and justified in such rate

1 filings.

2 So for us to follow up with RMS to  
3 determine how to effectively review these  
4 documented -- the differences that are there,  
5 how do we get the documentation, and how do we  
6 view the justification they give us. We have  
7 allowed this model and will continue to allow  
8 it for the purposes of ratemaking, again,  
9 subject to this documentation requirement.

10 And the final specific recommendation for  
11 RMS: In order to reflect differences in  
12 structural vulnerability due to temporal  
13 variations -- that's the building code  
14 issues -- it's necessary for filing companies  
15 like -- like the previous model, it's also  
16 necessary for filing companies to make these  
17 secondary modifiers, changes, to reflect these  
18 variations. And, again, the panel would  
19 prefer that the modeler make this adjustment  
20 in the model itself, but the modelers do allow  
21 for modification by each individual carrier.

22 So similar to my answer for these others,  
23 we have to determine what specific  
24 modification, what these secondary modifiers  
25 have to be -- what these modifiers should look

1 like, how we can find them in the output  
2 report, and then whether -- we have to  
3 determine how to -- you know, how to convince  
4 ourselves that they've made the proper  
5 adjustments. That's it for my presentation.

6 You know, my chore was basically,  
7 summarize the panel's recommendations as I see  
8 them. Marty, do you feel comfortable that  
9 I've accurately --

10 MR. SIMONS: Yes.

11 AUDIENCE MEMBER: Are these  
12 recommendations listed anywhere?

13 MR. FARMER: They'll be on the Web site  
14 by the time you're able to look at them.

15 MR. FERGUSON: Well, my concern is that  
16 you're making recommendations for conclusions  
17 that don't come out as conclusions. In other  
18 words, when I read the executive summary on  
19 things like short-term versus long-term, don't  
20 use tropical storms, there are no conclusions.  
21 They're just comments. They're the kind of  
22 things you would see in a methodology.

23 What I was looking for were the kind of  
24 questions that Ray started asking for: What  
25 did you find; how significant was it; tell me

1 those three, four major things. But I don't  
2 think anyone except the staff needs to know  
3 about some detail on do you include some  
4 little thing or not include some little thing.  
5 But the report, in my opinion, does not have  
6 the executive conclusion, and I don't think we  
7 can hide behind proprietary because you can  
8 summarize data without disclosing anything.  
9 The proprietary data can be redacted and only  
10 given to you.

11 So my opinion, what -- what Marty and his  
12 group owes you is a summary of rank  
13 conclusions. We found that tropical storms  
14 are very important. Now, I asked Marty, I  
15 asked him how important -- you didn't do the  
16 tropical storms. He said, well, there's only  
17 one company. Well, that's not a great -- why  
18 would it even be in there? It's not  
19 important. So I think -- I think you've got  
20 to address it to be rewritten, and it  
21 should -- it should summarize the conclusions.  
22 You should say how significant they are, and  
23 they should expect to give you  
24 recommendations. But I see a report that  
25 value is almost very little because you're not

1 addressing these major issues. And Ray's  
2 question is an excellent one, which is: How  
3 often should we use this -- how often should  
4 we use these?

5 If I were to add one, I would say also,  
6 what are the major things I should address?  
7 Those are the kind of things. This report is  
8 so confusing and so detailed, but it doesn't  
9 deal with any of it.

10 MR. DAVIS: Marty has something to say,  
11 but before he does, I want to give my  
12 response. I think I just did that. I think  
13 what I just did for this group in 25 minutes  
14 is to summarize every recommendation of  
15 consequence from the report. And I believe --  
16 it will be available, like the director said.  
17 And I believe if you go through here, what  
18 you'll see is every one of these will be found  
19 in the public version of the model.

20 MR. FERGUSON: Will, what's lacking is  
21 there's no way we know how important each of  
22 these issues are because there's no  
23 conclusions done in the executive summary. If  
24 you have a problem with, for example, tropical  
25 storms, we would expect you to say out of

1 three or four modeling companies, three of  
2 them do not use -- include tropical storms,  
3 and they shouldn't, and this is very  
4 significant, and it's got a hard number --  
5 but why give a recommendation to a list of  
6 things that really has no conclusion? There's  
7 no conclusion in what Marty gave you. It's  
8 just a comment.

9 MR. SIMONS: Let me respond. That report  
10 speaks specifically about the use of tropical  
11 storms and explains that if you have tropical  
12 storms in a stochastic storm set, that those  
13 tropical storm losses would be included in  
14 both parts of the actuarial calculations.

15 And I spoke earlier about the fact that  
16 you've got on -- non-hurricane calculations  
17 that are done in the typical actuarial way,  
18 and you've got hurricane calculations that are  
19 done through the model. And if you include  
20 tropical storms, it double counts that.

21 We were not able to go through every --  
22 the Department gets thousands and thousands of  
23 filings. We were not able to go through all  
24 those filings and give you a specific number.  
25 But there's very specific information in the

1 report, in the public part of the report.

2 MR. FERGUSON: But what are your real --  
3 conclusions of a tropical storm?

4 Let's take a tropical storm. Is that a  
5 big issue or a small issue?

6 MR. SIMONS: It depends on how many  
7 tropical storms you have.

8 MR. FERGUSON: No. I'm saying in your  
9 review of the data, is that a big issue,  
10 tropical storms, or a small issue?

11 MR. SIMONS: It's a big issue.

12 MR. FERGUSON: Oh, okay. How big an  
13 issue?

14 MR. SIMONS: It depends on how many  
15 tropical storms you have in the historical  
16 data.

17 MR. FERGUSON: Okay. And that problem,  
18 is it a problem across all modelers or just  
19 one?

20 MR. SIMONS: Just one.

21 MR. FERGUSON: And does that modeler even  
22 file in this state?

23 MR. SIMONS: They have not filed. But --

24 MR. FERGUSON: All right. Well, it can't  
25 be very big if --

1 MR. SIMONS: Let me finish the sentence,  
2 please.

3 MR. FERGUSON: Sure.

4 MR. SIMONS: There's not been a company  
5 yet that has used ARA as their model, but,  
6 obviously, ARA is interested in doing business  
7 here because they volunteered to be included  
8 in this. You want me to find things that  
9 aren't there, Darryl.

10 MR. FERGUSON: No, I don't. I don't.  
11 That's not the case at all. What I want you  
12 to do is summarize major conclusions, but I  
13 haven't seen it. This report doesn't  
14 summarize anything, Marty. It makes comments.

15 MR. FARMER: Mr. Ferguson, let's hold on  
16 one second. Earlier, Mr. Ferguson asked --  
17 and I didn't let you respond. Now you can --  
18 what added recommendations -- that Will had  
19 put up there -- what would be your top three  
20 recommendations for the Department?

21 MR. SIMONS: The biggest one would be the  
22 use of short-term models or medium-term models  
23 or warm water models, whatever they might call  
24 them.

25 Probably the second one would be

1 inclusion of tropical storms in the stochastic  
2 storm set. And the others are all fairly  
3 minimal. Basically, our report determined  
4 that the models do a very good job, with these  
5 exceptions. And when these exceptions are  
6 taken care of, we can have great confidence in  
7 the models. But, basically, the models do a  
8 very good job of determining the expected  
9 annual loss from hurricanes.

10 MR. FERGUSON: And that's what I think  
11 you should summarize. You should say, we only  
12 have two or three major ones; overall, they're  
13 doing a good job.

14 But then I would answer the obvious  
15 questions that the staff's going to want to  
16 know, which is how frequently should we use  
17 these; how do we keep our staff up-to-date on  
18 them?

19 MR. FARMER: And that information is now  
20 in the record. We're going to get to other  
21 questions in a minute. But since we've talked  
22 about specific models and modelers, I think  
23 that at this point, it's only fair for the  
24 modelers to be able to respond to anything  
25 that is in the report or that Will said or

1 that's been spoken of here.

2 MR. SIMONS: Absolutely.

3 MR. FARMER: So are there any modelers  
4 present that would like to speak? Now's the  
5 time.

6 Recall, Mr. Edwards, that we have a court  
7 reporter doing a record, so if you would state  
8 your name --

9 MR. EDWARDS: So help me God.

10 MR. FARMER: -- your company affiliation.  
11 Give us one second here to get us back online.  
12 It looks like we're having technical issues.

13 MR. EDWARDS: Good afternoon. My name is  
14 Reid Edwards, and I'm with Risk Management  
15 Solutions, RMS. I just wanted to make a  
16 couple of comments.

17 First of all, I wanted to thank the  
18 Department and the director for this review.  
19 We've been happy to work with them, and, in  
20 fact, we've been here before in Columbia. We  
21 had some pretty significant model changes in  
22 what we call Version 11 that came out at the  
23 end of February of 2011, and we were here  
24 later that year to meet with the Department  
25 staff and agreed to model changes, both the

1 global changes to the model but also  
2 specifically how they impacted South Carolina.  
3 So, you know, we certainly want to continue to  
4 have that relationship and be as transparent  
5 as possible with all the information related  
6 to our models.

7 Just for the record, if you take a  
8 certain amount of information that's 100  
9 percent of a model, we estimate that  
10 approximately 1 to 2 percent of that is  
11 proprietary and confidential that we wouldn't  
12 want to share in a public forum.

13 I also wanted to say that we wanted to  
14 thank the review panel. I thought they did a  
15 great job. Their background and expertise in  
16 Florida was essential and invaluable and sort  
17 of got a bigger bang for your buck, perhaps,  
18 than you might have otherwise because of that.  
19 The one comment I wanted to somewhat disagree  
20 with -- and Marty and I talked about it at the  
21 break -- is the characterization of this as an  
22 adversarial relationship. And, certainly, at  
23 RMS we did not view it that way. We were  
24 happy to answer the questions. We've been  
25 spending a lot of time and effort over the

1 last four-and-a-half years, working in a lot  
2 of hurricane states to educate the regulators  
3 about who we are and what we do, and we'll  
4 continue to do so. That's all I have.

5 MR. FARMER: Mr. Edwards, thank you for  
6 your attendance.

7 Any other modelers like to say anything?

8 Let the record show, no one else  
9 wanted to speak.

10 Okay. Why don't we ask the three  
11 presenters to be available up here again, and  
12 I may slide down so one of you may sit here  
13 and have access to a microphone.

14 Let's see if we have any questions of our  
15 three presenters.

16 MR. SIMONS: I'd like to make one comment  
17 about the RMS statement, and that is, the  
18 three words that are used: Educate the  
19 Department. That's what this process was all  
20 about. I know some of you have heard  
21 information that was not really verified  
22 relative to errors in the models or the fact  
23 that the models were wrong. I've got -- I've  
24 got a hell of a reputation to keep, and I am  
25 here to tell you that the models in South

1 Carolina did very good job. And what we found  
2 is what we found. And we did not go into this  
3 thinking that we were going to let the models  
4 off the hook. We did not go into this  
5 thinking that we've got to find something  
6 that's really wrong with the models.

7 Those of you that know me know that if I  
8 would have found anything wrong with the  
9 models, I would have been very proud to have  
10 presented that to you because I've presented  
11 things that were wrong with many of the  
12 companies that are represented in this room.

13 My reputation is such that I'm not going  
14 to say that the models did a good job unless  
15 the models did a good job. And this process  
16 educated the insurance department. And I am  
17 very proud of what we have done, and I think  
18 it will help in the future for the Department  
19 to do a better job. And I'm not saying they  
20 did a bad job in the past. What I'm saying is  
21 that what we've provided them will allow them  
22 to do a better job.

23 MR. FARMER: Any other questions?

24 MR. STRINGER: Mr. Farmer, I'm  
25 Joseph Stringer, Anderson Insurance,

1 report, the reports of the professional team.  
2 If you look through one of those reports, any  
3 one of them, you will see the intensity of the  
4 work that we do. But, no, the models did not  
5 come out with the same results. If they did,  
6 we would be very suspect.

7 MR. FARMER: Before Gwen asks a question,  
8 Mr. Stringer, Mr. Ferguson, before you leave,  
9 would you provide a business card of some sort  
10 for the court reporter so she will get  
11 everything right?

12 MS. MCGRIFF: Marty, there was a  
13 discussion earlier about one of the modelers,  
14 you know, wanting to redact some information  
15 as proprietary.

16 But what I wanted to basically just  
17 confirm or ask is: Were you satisfied that  
18 you -- that the panel received all the  
19 information that it needed in order to be able  
20 to adequately and effectively review the  
21 modeling?

*received  
all  
info  
needed  
to  
review*

22 MR. SIMONS: Yes. And I was also  
23 disappointed in the amount of information that  
24 one of the modelers redacted. But, as in  
25 Florida, when we do our professional team

1 Charleston. Just a question in general on the  
2 models.

3 Did the models vary significantly, or are  
4 they fairly uniform in their findings between  
5 the four models that were used?

6 Were there any outliers which would  
7 impact, you know, rating in South Carolina or  
8 would impact your recommendation of not using  
9 a particular model names on -- on that --

10 MR. SIMONS: That's a great question.  
11 That's a very good question. These are  
12 stochastic models. They do not come out with  
13 the same answers. However, we've reviewed the  
14 process. We don't review the results. We  
15 don't say, this is too high or this is too low  
16 so we're going to kick it out. We've reviewed  
17 the process that the models have done, and the  
18 output is a result of that process. And we  
19 review the process in extreme detail. When we  
20 go to review the models in Florida, we spent  
21 three full days. And I'll tell you that the  
22 modelers that I have present in the room with  
23 us -- just about every executive and just  
24 about every scientist in the room, you could  
25 go to the -- one of the references is our

1 report in Florida, for example, we finish the  
2 report; we give the report to the modelers.  
3 And we say we're going outside for a few  
4 minutes; review this report for proprietary  
5 information; if you have anything that's  
6 proprietary, just tell us, and we will take it  
7 out of the report, no questions asked.  
8 However, you have to put that in an envelope,  
9 bring it to the Florida Commission meeting,  
10 and during the closed session of the  
11 commission, those things will be brought out  
12 and discussed.

13 MR. EDWARDS: Maybe I could make a  
14 comment as to the proprietary insurance  
15 comment.

16 MR. FARMER: State your name.

17 MR. EDWARDS: Reid Edwards with RMS.

18 I'm not going to speak for our  
19 competitors, but as far as RMS is concerned,  
20 certainly with any regulators -- and we have  
21 shared proprietary information with many  
22 regulators outside of Florida as well. I'm  
23 very familiar with Louisiana where we've had  
24 nondisclosure agreements. We've certainly  
25 made the offer in all the other hurricane

1 states. And I think I've said to all the  
2 departments at this point that if any of the  
3 departments want to see the proprietary  
4 information, we -- of course, our legal folks  
5 and their lawyers would want to talk and make  
6 sure that the protections afforded our  
7 information, whether or not we need an NDA or  
8 something like that. But, certainly, that's  
9 available to the South Carolina Department as  
10 well, if they wanted to dive that deep into  
11 it.

12 MR. SIMONS: Thank you. All the members  
13 of the professional team have signed  
14 nondisclosure agreements. The commission  
15 members have not, but the commission members  
16 are all selected by the government. And the  
17 commission in Florida is made up of anybody  
18 that's got skin in the game. You've got  
19 actuaries from the industry; you've got  
20 actuaries from the Florida task fund; you've  
21 got meteorologists; you've got computer  
22 scientists; you've got statisticians. And  
23 there was a mistake made that they did not  
24 have an engineer on the commission, but that  
25 has been changed. Last year the Florida

1 models. I'm just trying to get some more  
2 specific information.

3 How long do you think it would take  
4 modelers, to actually adjust or modify those  
5 models to include the building codes? Because  
6 I understood what you were saying about the,  
7 you know, carriers can input this and that's  
8 the way it's done right now, but the better  
9 practice would be to make sure that the  
10 building code data's reflected in the model  
11 itself.

12 My question is: How long would it take,  
13 you know, the modelers to do that, to make  
14 those adjustments?

15 And then, number 2: What does the  
16 regulator do in the interim while the modeler  
17 is making those adjustments and testing that  
18 to make sure that we're verifying the data?  
19 Do we continue the practice of looking to the  
20 carriers in verifying the secondary modifier  
21 data, or whatever, to make sure the building  
22 code is included in that information?

23 MR. SIMONS: The modelers could make the  
24 revisions and provide them for review fairly  
25 rapidly. And I say that even with a modeler

1 legislature passed a law that says that there  
2 will be a structural engineer added to the  
3 commission.

4 They have a name of the guy. But state  
5 legislators don't work in very rapid ways, so  
6 he has not yet attended a commission meeting.  
7 But everything that's proprietary in Florida  
8 is brought to the commission and discussed.

9 MS. MCGRIFF: Marty, I just have another  
10 question. What I -- what I understood you to  
11 say from the presentation -- and I think you  
12 kind of summed it up at the end -- is that  
13 basically some of the information that you  
14 reviewed, you found the models to be  
15 satisfactory and the data in the models to be  
16 satisfactory with the exceptions that you  
17 noted earlier, don't use, you know, storm  
18 surge data; don't use tropical depressions,  
19 you know, information -- or don't allow that,  
20 you know, that kind of thing. And then the  
21 other one was -- that was on the -- I guess  
22 the meteorological module. On the  
23 vulnerability module, the vulnerability  
24 module, the ones about building codes were the  
25 ones that you recommended be included in the

1 in the room. That kind of change, when you're  
2 changing something in one state to take care  
3 of a building code, it should not be that  
4 difficult.

5 MR. BRANNON: One of the other issues is  
6 not just when the code changes. That's good,  
7 but there has to be research into enforcement  
8 and uniform enforcement. And what we've seen  
9 historically -- I think some of the insurance  
10 companies here and what we've seen in looking  
11 at claims from different events is that  
12 there's not always uniform enforcement. And I  
13 think that there's some accomodation for that  
14 in some of the rating structures, but  
15 especially when you have a new change in a  
16 state that hasn't had a change in building  
17 codes in a long time, how quickly everybody  
18 gets on board and -- and that there's  
19 verification that the house -- you say it's  
20 been built to the code. You know, it needs to  
21 be reviewed and looked at by the insurance  
22 company to verify that it does comply. And  
23 then maybe then it should have some reflection  
24 of a lower loss costs. But that's a process,  
25 more than just say there's a building code in

1 place, right?

2 MR. SIMONS: Yes. I agree with that.

3 And one of the modelers even said -- I don't  
4 remember which one, so don't ask me. I  
5 wouldn't tell you even if you did.

6 One of the modelers said they believe it  
7 wasn't enforced. And they can say that, but  
8 they have to show us an indication as to how  
9 they got to that result, how they determined  
10 that any building code is not enforced. And I  
11 think they would have a hard time.

12 A lack of enforcement of building codes  
13 is really more prevalent ten years ago.  
14 Building codes now -- it's my contention that  
15 anybody, any state, that passes any building  
16 code, they pass it because they expect the  
17 hurricane insurance loss costs to decrease.  
18 And if you say they're not enforcing it, show  
19 us how, in fact, you determined that they're  
20 not enforcing it. You can't just say that we  
21 don't believe it's being enforced.

22 And, again, it's a small change. The  
23 2006 building code's a small change, but it's  
24 an indication. If we do what we're doing now  
25 with the 2006 building code, then when there's

1 a big building code change, they know we're  
2 going to be looking at it.

3 MR. FARMER: Director Richardson has a  
4 question.

5 MR. RICHARDSON: Yes, thank you. I'm  
6 Scott Richardson. I have a consulting  
7 company, and I represent both consumers and  
8 companies.

9 MR. SIMONS: I remember, sir.

10 MR. RICHARDSON: I'm not representing  
11 anybody. I'm just here to educate myself  
12 today about what y'all are doing. But I  
13 wanted to ask a question of you, Marty, and  
14 Mark -- anybody that wants to answer it.

15 You pointed out that the biggest issue  
16 was not using short-term models, which I tend  
17 to agree with. I think you also addressed  
18 the -- the -- making the companies own up to  
19 any differentiation of where they have  
20 deviated from procedures or things that have  
21 been accepted by the Department. And I point  
22 to those two things to ask the question  
23 because I think the consumers in South  
24 Carolina -- or now one of the things that I  
25 hear -- I get called all the time, as you can

1           imagine -- is, you know, just what are  
2           models and how they work, but the other thing  
3           is, is what's fair to the consumers. So my  
4           question -- sorry to be so long about it.

5           But my question is: Would y'all -- do  
6           you feel that making sure that you use  
7           long-term models is probably the most  
8           significant thing, from the consumer side, in  
9           having a long-term outlook and not having  
10          nuances in rates bouncing around all over the  
11          place and that it does eliminate  
12          idiosyncrasies in weather patterns and stuff  
13          like that? The long-term model, I guess, is  
14          fairer -- I hate to use that word fairer -- to  
15          the consumer than short-term models and that  
16          they should get some sort of comfort from that  
17          fact?

18                 MR. SIMONS: When you say most important,  
19                 I would answer that with, it's very important.  
20                 And I would also say that the short-term  
21                 models were presented to the Florida  
22                 Commission as an option. It's presented  
23                 everywhere as an option. After the 2004 and  
24                 2005 series of hurricanes in Florida --  
25                 because they said look at this; there have

1           been five hurricanes in two years; it's  
2           blowing up; it's going to be every year. We  
3           have not had a hurricane in Florida, a major  
4           hurricane in Florida, for seven years. It's  
5           very important. I don't know what's the most  
6           important.

7           MS. MCGRIFF: Marty, as far as the  
8           meteorological -- Jenni's part of the report,  
9           her conclusions, I mean, I think that  
10          basically -- if I understood you correctly --  
11          she concluded that the data in the modules  
12          basically accurately reflected, I guess, South  
13          Carolina's -- the topography of South Carolina  
14          and the hurricane exposure risk going up the  
15          coast?

16          MR. SIMONS: Yeah. I wouldn't say going  
17          up the coast. I would say in the area around  
18          South Carolina as well as South Carolina.  
19          Hurricanes don't know state boundaries.

20          MS. MCGRIFF: I'm sorry. When I say  
21          South Carolina, South Carolina's coast.

22          MR. SIMONS: Yes.

23          MS. MCGRIFF: Not -- you know, up the  
24          eastern coast but from Beaufort to, you know,  
25          above North Myrtle Beach, that data is

1 reflected in the model?

2 MR. SIMONS: Yes.

3 MS. MCGRIFF: The hurricane landfalls,  
4 and all that kind of stuff --

5 MR. SIMONS: Yes.

6 MS. MCGRIFF: -- or lack thereof?

7 MR. SIMONS: Yes. But what I'm trying to  
8 get across is that it goes further up and  
9 further down. So if you're in an area that  
10 includes South Carolina -- because, as I said,  
11 hurricanes don't know state boundaries, so  
12 they don't change because they're in North or  
13 South Carolina.

14 MR. FARMER: Mr. Elam, did you have a  
15 question?

16 MR. ELAM: Yeah. I would consider it  
17 somewhat related -- there was a discussion of  
18 carriers making their own adjustments to the  
19 models. And did the panel have any  
20 recommendation to the Department how they  
21 should handle a review if a carrier is making  
22 its own adjustments to the model?

23 MR. SIMONS: Yes. And I think that's the  
24 biggest part of the report, the fact that we  
25 pointed out that the output report -- no

1 matter what it's called -- it's called  
2 different things by different modelers. But  
3 it has in it any adjustments that were made.  
4 And the answer to your question is, if any  
5 adjustments were made, I would just disapprove  
6 it.

7 MR. ELAM: Okay. You would just  
8 disapprove it as opposed to, say, run it for  
9 me both ways, with the adjustments and  
10 without?

11 MR. SIMONS: No. Because they're  
12 changing the output of the model, so it's no  
13 longer something that has been reviewed.  
14 They're adjustment is outside of any review  
15 that's been done on these models, and that's  
16 why I would say just disapprove it. If I were  
17 the actuary -- and I was for 12 years -- I  
18 would simply tell this company this is  
19 disapproved because you made this adjustment;  
20 take it out.

21 MR. FARMER: Any other questions?

22 MR. STRINGER: Again, for Will, of the  
23 Department, are company's currently using the  
24 short-term or warm-model rates as the  
25 Department addressed some of these changes to

1 the companies so that they more fall in line  
2 with some of the -- if the existing -- like  
3 the RMS 11 or some of these findings that the  
4 committee has found -- is the Department  
5 responding to those, and are companies  
6 responding in terms of getting more accurate  
7 rates for the coast?

8 MR. FARMER: Will?

9 MR. DAVIS: I think the first part of the  
10 question is, are companies using short-term  
11 models?

12 MR. STRINGER: Yes.

13 MR. DAVIS: No. Not here.

14 MR. EDWARDS: In those states. The  
15 short-term model is not be being used to file  
16 any rates in any North Atlantic hurricane  
17 state.

18 MR. DAVIS: Now, I don't know if the  
19 Department -- Mr. Edwards says for rate filing  
20 purposes. People who do it this way, that  
21 matters to us. I'm not telling you an  
22 insurance company doesn't use it for other  
23 matters such as their own solvency concerns or  
24 their capital allocation concerns. Companies  
25 use any number of models for stuff like that.

1           What we're talking about is very specific to  
2           the regulation of rates.  And I'll just say it  
3           again.  We've not approved any filings for  
4           carriers using short-term or medium-term  
5           models to support the hurricane loss costs  
6           part of the rate.

7           MR. SIMONS:  It's interesting that I have  
8           looked at some filings in South Carolina, and  
9           some companies, because they know that  
10          short-term models aren't allowed, say we're  
11          using a warm water model which is the same  
12          thing.

13          What they mean by the short-term model --  
14          mainly what they mean is they're using the  
15          history from 1950 on because they believe that  
16          that's more indicative of what's going on  
17          today.  There's been no proof ever shown to me  
18          or to Jenni or to the Florida Commission that  
19          shows that there is really -- that the data  
20          from 1950 on is a better indicator than the  
21          data from 1900 on.

22          So in both cases -- in all cases, you  
23          need to use the data from 1900 to the latest  
24          date that's available.  And in Florida -- I  
25          hate to keep bringing up Florida because it

1 sounds like I'm talking about a different  
2 state. If there's a year with no hurricanes,  
3 the Florida Commission still mandates that the  
4 models -- update the model every -- every  
5 couple years.

6 There's a requirement that requires that  
7 every two years the model has to be updated  
8 for changes in the zip codes. And changes in  
9 the zip codes can have a big impact,  
10 especially when you're near the cost.

11 MS. MCGRIFF: I know you said -- well, I  
12 think you said -- you or Mark basically said  
13 that the Florida Commission accepts models,  
14 you know? They don't approve them, but they  
15 accept them?

16 MR. SIMONS: That's right.

17 MS. MCGRIFF: Do those models expire in  
18 Florida? Like, when they approve a new  
19 version, does the old version expire? How  
20 long can carriers continue to use the old  
21 model while they're trying, I guess, to  
22 transition to the new models? How long does  
23 the regulator allow them to use the old model?

24 MR. SIMONS: I think that's really up to  
25 the regulator. Yes, the Florida Commission

1 those models that were accepted by the  
2 commission in June of 2013.

3 MR. SIMONS: Yes.

4 MR. FARMER: Kendall has a question.

5 MS. BUCHANAN: In follow-up to your  
6 statement that no changes should be made by  
7 the carriers to the models and that if any  
8 changes were made, you would recommend  
9 disapproval of the filing, isn't it true that  
10 that's not actually as black and white as any  
11 changes would lead to the disapproval of the  
12 filing for one period -- or excuse me -- one  
13 modeler includes storm surge as a default, and  
14 so that's something that the carrier would  
15 need to omit when they were running the model  
16 for South Carolina?

17 MR. SIMONS: If the model included storm  
18 surge, I don't care if anybody adjusted or it  
19 or not. If I was the regulator, I would  
20 disapprove it.

21 MR. DAVIS: For this specific model  
22 though, the carrier actually has to make that  
23 adjustment to comply with our direction,  
24 right?

25 MR. SIMONS: It would be impossible to

1 has an expiration, but it's not at the time  
2 that they approve the new model. I think it's  
3 two years.

4 And the reason for that is that insurance  
5 companies don't -- it's not instantaneous to  
6 make a rate filing. It takes time to make a  
7 rate filing. And they're making a rate filing  
8 based on a certain model, and if it takes  
9 three months to put it together and another  
10 three months to get the necessary information  
11 for approval, they shouldn't have to go back  
12 and use a newer model. It just takes time.  
13 There's a time limit in there that you just  
14 have to let insurance companies allow that  
15 time to include the old model.

16 MS. MCGRIFF: And one follow-up to that  
17 question right there. In June of 2013, the  
18 commission, I guess, basically approved some  
19 new models --

20 MR. SIMONS: Accepted.

21 MS. MCGRIFF: -- accepted some new  
22 models. And I know you guys were involved in  
23 the process, in this process, at that time.

24 Does the evaluation of the models that  
25 are used in South Carolina take into account

1 model yet. And that would be the standards of  
2 practice as far as providing support for that  
3 differential if the loss costs. So I think  
4 there's information there that we can use  
5 external from the model without changing the  
6 model.

7 You know, they have a way to do these  
8 secondary modifiers. So it's really just  
9 another way to bring that type of information  
10 in to the ratemaking process. And that  
11 happens all the time in a lot of different  
12 ways.

13 New information, you want to use it as  
14 soon as you can, especially if it's to the  
15 policyholder's benefit. So I think you find  
16 ways to get it there before the modelers  
17 update it. It won't take long to do it but --

18 MR. SIMONS: That's a very good point.

19 MR. BRANNON: -- I think that's the way  
20 to -- one way to go about it, get that  
21 information in right away.

22 MR. FARMER: Mr. Edwards had a question.

23 MR. EDWARDS: I just wanted to reiterate  
24 one thing that related to building code  
25 enforcement. And, in fact, when we released

1 just take out the storm surge, to just say you  
2 don't know what other effects it would have in  
3 that model, so I would disapprove that.

4 MR. BRANNON: On this whole building code  
5 issue, as an actuary that makes rate filings,  
6 if the model has not yet had an opportunity to  
7 be -- incorporate changes to building code or  
8 some other aspect of the model, either  
9 meteorology, if there's been some recent  
10 events, you know, how quickly can you get them  
11 into the model. But as far as the building  
12 codes, there should be sufficient information  
13 in the engineering community in the modelers  
14 and insurers to get together even before it  
15 could make its way through the model to come  
16 up and let's -- give me as an actuary, I could  
17 take that information and say, you know, based  
18 on this information, I can see that homes  
19 built on the islands down there in Beaufort  
20 should have, under the new code -- it looks  
21 like, based on the engineering information,  
22 should have 20 percent less long-term  
23 hurricane losses. And I can use that to come  
24 to the Department, say here's my filing;  
25 here's the support for that; it's not in the

1           our Version 11, we spent a lot of money with  
2           building code enforcement experts -- I do this  
3           a lot -- from Texas down to Florida all the  
4           way up New Hampshire. And, in fact,  
5           enforcement in some places is wonderful, and  
6           enforcement in some places isn't so wonderful.  
7           And we saw a lot of that, in fact, with Texas  
8           with Ike as one unfortunate and shining  
9           example.

10           The question of models once they're  
11           approved by the commission, OIR right now  
12           under the statute of Florida says 60 days  
13           after that, you must use the new model. So,  
14           in fact, there's going to be an intense next  
15           session in Florida legislature to increase  
16           that to 180 days to give companies more time  
17           to do just what you were talking about, which  
18           is a lot of work related to installing it,  
19           testing it out, et cetera, et cetera, test  
20           drive it, if you will, before they then use in  
21           rate filing, so that will give them additional  
22           time.

23           MR. BRANNON: It just makes impossible  
24           for insurance companies to -- you know, you  
25           spend three or four months -- you're working

1 as hard as you can to get the rate filing in  
2 before that 60 days, and if you're not, then  
3 they just turn it right around and say new  
4 model.

5 MR. SIMONS: I would certainly agree that  
6 180 days makes more sense than 60 days. You  
7 can take that to the OIR in Florida, and it  
8 will get you nothing.

9 MR. EDWARDS: They actually support it.  
10 They're actually okay with going 180 days.

11 MS. BUCHANAN: Marty, when talking about  
12 this flexibility, because of the time it takes  
13 to run the models given everything the carrier  
14 would need to submit to the Department for a  
15 rate filing, do you believe that it's  
16 reasonable to give greater flexibility to  
17 smaller carriers that may not have the same  
18 resources as some of our larger carriers?

19 MR. SIMONS: I would if I was the  
20 regulator, yes. Maybe people wouldn't find  
21 out about it, but it's all public information,  
22 so if they wanted to know, they could.

23 MR. FARMER: All right. Question?

24 MR. FOX: I'm Bob Fox. I just wanted to  
25 address the comment you made, Marty, a couple

1 earlier -- you said that the Department  
2 created the -- I guess, the summary. When you  
3 made that reference in the report, are you  
4 talking about the Department assembling the  
5 non-proprietary information to disseminate to  
6 the public? Is that what you were referring  
7 to when you said that -- the summary.

8 MR. SIMONS: No. I was really talking  
9 about that -- that your involvement was to ask  
10 the questions that we provided you to ask.

11 MS. MCGRIFF: Okay.

12 MR. BRANNON: The conduit to the modeler  
13 to the panel, that's what I understood.

14 MS. MCGRIFF: Okay.

15 MR. FARMER: Okay. The last question  
16 from our staff, and then Mr. Stringer has a  
17 question.

18 MS. BUCHANAN: Marty, some of the  
19 recommendations of the panel are already in  
20 place at the Department. Others are not, such  
21 as reviewing the model output.

22 Would you conclude that it's reasonable  
23 that that would take a period of time for us  
24 to review the model output so each of the  
25 modelers can gain an understanding of how we

1 of minutes ago on companies -- it sounded like  
2 you were saying they were trying to deceive  
3 the Department by calling their model the warm  
4 ocean catalog. And I just wanted to point out  
5 that there's nobody here from AIR, to my  
6 knowledge. That's actually what AIR calls  
7 their alternate catalog, and they will tell  
8 you that they have not attempted to make any  
9 projection of the future. So it's technically  
10 what it's really called. And it may not be an  
11 attempt to deceive. It might be just using  
12 the actual wording that the modeler used.  
13 Because I do actuarial analyses for scientists  
14 all across the country using models, and  
15 whenever my team uses the AIR model and we're  
16 using the warm ocean catalog, we call it the  
17 warm ocean catalog, and we're not trying to  
18 deceive our clients. So I just wanted to make  
19 that --

20 MR. SIMONS: I take that back. I had my  
21 regulator hat on.

22 MR. FARMER: Any other questions?

23 MS. MCGRIFF: Just one. I promise. I'm  
24 sorry. In the beginning when we were talking  
25 about the report -- and I meant to say this

1 appropriately review those end filings prior  
2 to implementing the change?

3 MR. SIMONS: Absolutely. Absolutely. I  
4 don't expect you to do anything today.

5 MS. MCGRIFF: Oh, while we're doing  
6 that -- I just said it was my last question.  
7 I'm sorry. I lied. I didn't know I was going  
8 to have this question.

9 But in, I guess, follow-up on what  
10 Kendall was saying, while we're going through  
11 that process of, I guess, reviewing the output  
12 report and getting all that stuff done to  
13 request that from the carriers, I think  
14 currently we have an interrogatory that  
15 basically requires the carriers to disclose to  
16 us the modifications that they've made or any  
17 changes they've made to the model.

18 And so my question is: In the interim,  
19 while we're trying to get the output report,  
20 will that be sufficient to help us get through  
21 the transition, in your opinion?

22 MR. SIMONS: Yes.

23 MR. FARMER: Mr. Stringer?

24 MR. STRINGER: One question. You  
25 indicated before that the three models that

1           were used here, you know -- or the four --  
2           vary dramatically in their results. If a  
3           company, for instance, is filing with AIR  
4           and -- what's the Department's response in  
5           terms of if AIR is having a higher result, you  
6           know, economically, resulting in more  
7           premiums, higher premiums, than, say, the RMS  
8           model, how does the Department respond to  
9           that, or how would they respond to that?

10           MR. FARMER: I think from a practical  
11           aspect, companies use more than one model and  
12           blend those together.

13           Mark has an additional answer to that,  
14           I'm sure.

15           MR. BRANNON: One of issues with using a  
16           single model is that you can -- their  
17           relationship to others might be higher or  
18           lower. But that is -- when you're looking at  
19           making a rate filing, the loss costs is  
20           composed of two components. Mainly, you  
21           produce a loss costs estimate for what you  
22           retain for every hurricane that occurs that  
23           you don't have insurance coverage for, your  
24           retention, so if you use a model that has,  
25           say, higher loss costs estimates than the

1 other models for that component.

2 The other piece that you look at is the  
3 reinsurance costs, and to the degree that the  
4 lost costs are higher, when you take the  
5 reinsurance premium less the expected  
6 recoveries -- which are higher now, right, so  
7 that difference -- that expense actually looks  
8 small. So in a way, they kind of offset each  
9 other, depending on the relative size to the  
10 premium of the reinsurance net cost or  
11 reinsurance and the retained loss. So it's  
12 not a -- it's kind of a muted effect, I would  
13 say. So even the combination of the models  
14 makes it even more even, I would say, as far  
15 as evening out those deficits. So I think  
16 because of those two components, if you use a  
17 higher model, the retention goes up, but your  
18 net cost goes down. So depending on the  
19 relative size of those two components, it can  
20 have different impact for different carriers.  
21 But I think that helps that mitigate some of  
22 the concerns you're expressing.

23 MR. FARMER: All right. Thanks to both  
24 of you and Will. Mr. Elam, representing the  
25 consumer advocate's office, would you have any

1 comments you would like to make?

2 MR. ELAM: I don't. Thank you.

3 MR. FARMER: Okay. At this point, we  
4 would here from any industry member that may  
5 have any comments.

6 Mr. Harrison, representing the South  
7 Carolina Wind and Hail Association, your data  
8 was used in the report. We did not talk about  
9 it a lot, but it's in the report, and it'll be  
10 online for others to see. Is there any  
11 comments that you would like to make relative  
12 to the use of that data?

13 MR. HARRISON: Thank you, Mr. Director.  
14 The only comments I would make, very general,  
15 is that we've always used the long-term model.  
16 That's been the department's requirement. We  
17 tried to used the Florida-approved models. Of  
18 course, we get into issues of when they make  
19 an update, it's not 10.0.0; it's 10.0.1. I  
20 think that's an issue that the Department  
21 needs to look as to whether the .1 is still an  
22 approved model or not. Typically, the change  
23 really doesn't impact South Carolina.

24 We've had some discussions on the numbers  
25 of years of simulation. I think there are

1 different opinions on that. I think the  
2 solution is, we just need to run the models at  
3 different years' simulation and see what  
4 differences there are, if any. And I'm not  
5 sure that our book of business is reflective  
6 of a solution for the Department. Maybe a  
7 couple of companies should be involved in that  
8 process.

9 Thinking about some of the other  
10 suggestions they noted, they had some  
11 differences reconciling some of our numbers  
12 with some of the modelers' output. I think we  
13 can probably chase those down. There's some  
14 assumption somewhere that if the Department  
15 would like us to and get us in contact with  
16 the modelers, we can work to do that. One of  
17 the challenges when you're using notional  
18 risks that don't reflect the book of business  
19 we use, obviously, there's a lot of give and  
20 take in there.

21 I think Marty had a good suggestion on  
22 year of construction for us; however, I think  
23 that really applies to a private company. I  
24 think as a residual market, as we start  
25 fine-tuning our criteria and we sort of get

1 away from our take-all of our viewpoint. But  
2 that's certainly something we could have a  
3 conversation with the Department on at a later  
4 date.

5 MR. FARMER: Thank you. Anyone else in  
6 the room want to make any other comments  
7 before we wrap this up? Now is that time.

8 Okay. I want to thank you each one of  
9 you for coming.

10 Now, not so fast. This is not a break  
11 here. Hold on.

12 Shortly after the record closes on  
13 October 31st, the Department will review the  
14 record. We will issue guidance to insurers on  
15 how to use catastrophe models in ratemaking on  
16 property insurance in this state. I thank  
17 each one of you for coming. That concludes  
18 the hearing.

19 (The hearing was concluded at 1:20 p.m.)

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CERTIFICATE OF REPORTER

I, Joy R. Dawson, Court Reporter and Notary Public for the State of South Carolina at Large, do hereby certify that the foregoing transcript is a true, accurate, and complete record.

I further certify that I am neither related to nor counsel for any party to the cause pending or interested in the events thereof.

Witness my hand, I have hereunto affixed my official seal this 6th day of November, 2013 at Rock Hill, York County, South Carolina.

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Joy R. Dawson, Court Reporter  
My Commission expires  
June 27, 2018

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PAGE/LINE

PRESENTATION BY MR. BRANNON 7 16

PRESENTATION BY MR. SIMONS 38 19

PRESENTATION BY MR. DAVIS 80 5

CERTIFICATE OF REPORTER 145 1