

>>MR. DOYLE: Last presentation before we take a break but, certainly want of the most important, Paul Rooney from FEMA.

>> MR. ROONEY: Good morning. Well, thanks for the chance to talk about this a little bit. I probably reiterate some of what I said yesterday in the afternoon, vertical session, but my work is primarily on the flood insurance program and there is two major elements there. First, we have to identify the estimated levels of flood risk. And one of the principle ways that this is done is done is by identifying the projected elevation that the flood is likely to reach. And so, in that process, there's pretty large error budget, the minimum is a tenth of a foot. On the hydraulic side, and generally, probably significantly larger than that and the whole series of other things that go in there. But fundamentally, ground elevations are a key part of that example. The elevations of various other things, bridges, dams that sort of thing.

That has to be tied down to the NSRS. And the principle reason is -- the reason to identify those elevations is so when we build stuff, we can relate them to flood level to try to ensure they are safe. So you have to be able to relate that to flood elevations and the NSRS is obviously the way to do that.

The other side is building elevations surveys that happen potentially years after the flood elevations is established. And they are done independently, don't necessarily use the same control, so the issue is making sure they are comparable to those flood elevations so people are making the right decisions when they do the construction. So ultimately, those last few centimeters of precision are not really what's critical to us. It's consistency over the area and making sure if the flood study uses one set of data and the surveyor doing the building elevation use a different set, that they are general comparable. Uncertainties in the flood elevations will dominate the uncertainties in the surveys if they are done correctly. So, the real cost of those surveys is one of the real challenges I mentioned yesterday, impediment to people buying insurance, people considered it a big burden when they are right on the fringe, within a few inches of what we think the flood elevations is. And we draw them in and then they get a surveyor and demonstrate they are an inch higher than the flood elevation and they think we're crazy and how could we think they are subject to flooding and they are very angry they paid that thousand dollars. And they go to their congressmen, and their congressmen get very angry they paid that thousand dollars for the survey.

And so, bringing that cost down making that process simpler, quicker and more reliable is a huge potential benefit for the flood insurance program from this change. The big challenge for us, we have this huge inventory of elevations, flood elevations we identified and published on regulatory maps, 100,000 maps and inventories and each one have some spot flood elevations and dozens on it. And those are adopted by the community into their local zoning ordinances, a requirement that they haven't adopted and they are automatically kicked out of the flood insurance program and barred from various federal disaster-related benefits if they don't do that. So when we change them, they have -- there is this extended process that kicks off where they must then adopt those changes, make it officially part of their zoning and enforce them.

So there is a variety of challenges there.

We have a five year review cycle for our maps but that does not mean they all get updated. We try to be very judicious about only updating them when something really changes and we have a set of criteria for that. Even though we might revisit those 100,000 maps on a 5 year cycle, they may not all be updated and so getting them changed over to a new datum is a huge challenge, still fighting that with 29 and I'm sure it will take us a while to figure it with this one too.

You can hope that maybe computers there make this easier and be able to convert entire profiles using transformation tools and get the communities to readopt them but ultimately, there is that organizational challenge, not just about the technology but that it's about interaction with the local government and those processes you have to go through and make sure people's property rights are protected and that type of thing.

The other issues that are constantly a challenge for us is subsidence is clearly one of them, knowing which areas we need to worry about and having procedures that account for it without over burdening everybody else's whose marks are not moving substantially and doing that in a strategic way is a difficult challenge for us particularly with the assumptions that once we do a flood map, it is good for a while, an in areas of subsidence that assumption breaks down a lot quicker and we don't really have the spatial processes around that to deal with it effectively.

The other issue is the community implementing this program. It becomes a requirement, zoning but they are not elevation experts or geodesists and understanding what FEMA needs in terms of elevations and enforcing it in enactment of their local zoning ordinance is a challenge for them. And so I think Jim's point about the education in the whole community is a critical one that we rely on it, survey community to do these elevations and support those local officials with the elevations they need and having that group understand what's going on and being able to deal with it easily and correctly is a big issue for us.

That's all I have.

>> MR. DOYLE: Thank you Paul. We certainly understand and can appreciate the magnitude of the issues that FEMA faces here. ...

(Whereupon a morning recess was taken)