

From: Decker, David ^{10/17}
Sent: Friday, September 16, 2011 8:39 AM
To: Khanna, Meena
Cc: Li, Yong; Manoly, Kamal
Subject: RE: Follow-Up Question from Congressional Staffer

Thanks Meena - this is helpful. I've heard that there are two kinematic seismometers at North Anna, but wanted to check to see if you knew that was correct. Thanks!

—Original Message—

*From: Khanna, Meena
Sent: Thursday, September 15, 2011 10:50 PM
To: Decker, David
Cc: Li, Yong; Manoly, Kamal
Subject: FW: Follow-Up Question from Congressional Staffer
Importance: High*

David, pls use this response in lieu of what I sent you earlier..thanks

Kinematic seismometers are relatively reliable because they provide ground motion time histories and the corresponding response spectrum can be calculated. However, Engdahl Scratch plates only record peak accelerations and due to unknown reasons, the scratch plates at the North Anna plant did not register any ground motion from the earthquake at certain frequencies. The response spectra from Engdahl and Kinematic seismometers showed significant inconsistency, in both frequencies and amplitudes, even though the two seismometers are located at the same location/elevation. However, it should be noted that both types of recordings indicated the exceedance of OBE and DBE at the North Anna site.

R

*From: Khanna, Meena ^{10/17}
Sent: Thursday, September 15, 2011 6:35 PM
To: Decker, David
Cc: Manoly, Kamal; Li, Yong; Wilson, George
Subject: FW: Follow-Up Question from Congressional Staffer*

David, here is a response to your question...

Yes. Kinematic recordings are more reliable because they provide time histories and the corresponding response spectra can be calculated. Engdahl Scratch plates only record peak accelerations and could miss accelerations at certain frequencies, thus, one would be expected to see some inconsistency in reflecting the frequency vs. amplitude of vibrations. However, it should be noted that both types of recordings indicate the exceedance of OBE and DBE at North Anna.

Thanks,

R
E/15

Meena

From: Decker, David 10/14

To: Munson, Clifford

Cc: Wilson, George

Sent: Thu Sep 15 09:55:48 2011

Subject: RE: Follow-Up Question from Congressional Staffer Thanks Cliff. Knowing that we also have data from seismometers (do we know how many there are at the plant) is good.

George - anything more that we can say about where we got data to evaluate the earthquake's impact (other than the scratchplates) would be much appreciated.

From: Munson, Clifford 1/10/11

Sent: Thursday, September 15, 2011 8:01 AM

To: Decker, David

Cc: Wilson, George

Subject: RE: Follow-Up Question from Congressional Staffer

Bill Leith of USGS was referring to the "scratch plate" readouts. Dominion also has seismometers which give a complete record of the earthquake motions so they aren't just relying on the scratch plates, which are fairly crude (1970s technology).

Maybe George Wilson can amplify more on the accuracy of the scratch plates since he has experience with them.

Cliff

From: Decker, David 10/14

Sent: Wednesday, September 14, 2011 5:25 PM

To: Wilson, George; Munson, Clifford; Croteau, Rick; Jones, William

Subject: Follow-Up Question from Congressional Staffer

We received the following question from Kathy Dedrick (one of our Senate oversight staffers who we've talked with on the phone twice recently), after she watched the Task Force public meeting today. Thanks for your help in responding to the question below. -David

"Can anyone explain to me what the ramifications are of the USGS testimony today which said that the measurements at North Anna were probably not accurate within 10 or 20 percent. Does that mean they are less sensitive and the ground motion could have been much more? Or what does that mean? It sounds like those instruments are the only source of information, so Dominion would be basing decisions on something that isn't very accurate."