Ma, John

From: Ma, John NRO
Sent: Tuesday, May 18, 2010 12:37 PM
To: 'hou chunlin'
Subject: RE: About the PCS tank.

Chunlin:

Remember the first paper that I gave it to you, which was written by G.W. Housner and I told you that was the most important concept and method for water tank design subjected to dynamic loads. That concept was fundamental to all water tank design methods later developed by others. The Housner's concept and method is to use a portion of the water mass (%) in the tank to be rigidly lumped with the structure that supports the tank for the SSI analysis, and the remaining (balance) portion of the water mass with a spring for sloshing analysis. In answering your question, I would say that Housner's concept and method are applicable for both types of geometry that you described. However, the percentage of water mass (%) to be used for SSI analysis and sloshing analysis would be different for the two different geometrical tanks.

From: hou chunlin (b)(6) Ex. 6
Sent: Monday, May 17, 2010 9:21 PM
To: Ma, John
Subject: Re: About the PCS tank.

马老师：

好！ 不好意思，是我一个单词写错了。
“Torsional”为“ Toroidal”。

我的问题是环行水箱的几何图形里面是中空的，圆柱型水箱的几何图形里面是实体的，这两种水箱在做抗震分析时，等效质量点的方法是不是一样，还是应该有区别的？

祝好！

春林

On Mon, May 17, 2010 at 11:55 PM, Ma, John <John.Ma@nrc.gov> wrote:

Chunlin:

The PCS tank is a hollow cylindrical shaped tank, but the bottom of the tank is slopped to match the slope of the shield building roof. The geometry of the tank does not create “torsion”. Therefore, I do not understand your description of a “torsional” tank. Also, I do not understand your “column” tank either. Please re-write your question in Chinese so that I may be able to understand the problem that you have and what you want from me. Your English was

good while you were here a month ago in the United States, and is bad now while you are in China (just a joke for a laugh).

From: hou chunlin [mailto (b)(6)] Ex. 6
Sent: Saturday, May 15, 2010 3:12 AM
To: Ma, John
Subject: About the PCS tank.

Teacher Ma:

When I back to NNSA/NSC, I did wake up to that the PCS tank of AP1000 is torsional tank, not the column tank.

For the torsional tank, the core of this geometry is empty, but the geometry in the meddle of the column is solid, So I think that the two calculating methods for the torsional and column tank are different. Do you think that? When I stayed in NRC, you had suggested me some documents just on the column tank.

I really could not solve this issue, Please help me.

Thanks a lot.

Chunlin

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