

From: Timothy Collins *TC*
To: Diane Jackson
Date: Tue, Aug 29, 2000 5:06 PM
Subject: Re: assumptions in study

Diane, thanks.

I would like you to put together in some form (bullets is probably OK) a discussion of the 3.5 cores assumption. George and I talked about this some yesterday.

Why did we pick 3.5 cores? Is there any thermal hydraulic support? (I know you gave me info on this already, I am just trying to be comprehensive)

How important is the number of cores?

George and I discussed considerations like: All the ruthenium is decayed away except in the first 2-3 cores anyway, but the Cesium is still there...but the cesium decays enough such that the next 3 cores only doubles the consequences, while the decay heat (and thus the likelihood of involvement) is reduced in older assemblies (3.5 cores and beyond).

Also how sensitive are we to FEWER cores involved? The likelihood of fewer may be higher, but how sensitive are the consequences....directly proportional????

I would like as complete a story as possible on the 3.5 cores from any perspective you can think of, considering any studies done to date.

Tim

>>> Diane Jackson 08/28 5:50 PM >>>

Tim -

As we discussed earlier, you asked if there were any assumptions that I thought might be questioned later.

1) In the T/H we assumed 6 inches of space around the edge of the pool. Some plants have only 2 inches between the racks and the pool wall. However, it is usually only on parts of the pool. The upender is a large gap on one portion and the cask laydown area is (usually) an open space (sometimes there is a pedestal for the cask and therefore a wall next to the racks). And due to rereacking, most plants have a mix of rack designs that do not fit next to the wall on all sides. For the analysis we had to choose one number for the distance between the wall and rack for the whole pool, so we estimated.

2) In the T/H analysis we assumed a full pool. NEI bases their calcs on current decomm. plants, none of which have a full pool since they shutdown prematurely. We choose a full pool, because we assume most plants will shutdown as planned and not have more racks than they need.

3) We never say anything about fire mitigation. The answer is we don't know what are acceptable methods, water quantities, flow rates, dispersion techniques, etc. to ensure fire mitigation. Early in-house draft versions (it never made it to a published draft) discussed possible means for licensees to explore if they did not pass the generic analysis. We did not endorse any method.

4) Attached are the PRA assumptions that went into the 3-month study. The only one that strikes me is assuming a diesel-powered fire pump.

4/20

Diane

CC: George Hubbard