

From: Jack Guttman
To: Shah, Mahendra; Smith, Jeffrey
Date: 8/21/02 10:58AM
Subject: Re: Aircraft analyses assumptions

Jeff,

Would you please also tell us the status of the Boeing contract and when Boeing will visit SNL.

I want the model confirmed by Boeing ASAP, given that we only have five weeks left for the analyses.

Thanks,

Jack.

>>> Mahendra Shah 08/21/2002 9:15:31 AM >>>
Jeff:

As discussed with you yesterday, please consider the following in selecting the speed and angle of strike for both the [] and the small aircraft. Ex2

2. The strike angles selection should be based on realistic assumptions considering what is physically possible and what would maximize the damage. This would require judgement based on the analyses results and the potential conservatism in analyses.

3. The small plane analyses and the selection of the plane should be based on considering the damage due to [] and the plane body. Since the impact loading due to the small plane body and the engines by themselves would be bounded by the larger plane, the accentuating effects of the [] on the hard parts such as the engines would be most damaging. This can be evaluated by analyses or analytical calculations. Also, this would limit the small plane evaluations to such as the [] only. Ex2

Other issues:

1. I compared the total force on the target in Fig. 1.1A-6 of the July 17, 2002 report based on the CTH analyses, to the Riera Model results in UCRL-ID-123577 document. [] of the Riera Model. Is it possible to explain why this is reasonable, considering the masses of the aircraft and the cask and the impact velocity? Can you address the effect of the friction between the cask and the pad on the damage to the cask?. Ex2

2. Please obtain the equivalent plastic strains in MPC for the Merlin's NAC-UMS rail cask analyses for [] pressures. As I understand it, the large strains which were discussed last week were in the exterior and inner shells, but not in the MPC. I assume the CTH [] pressures for stand-off distance of 1 ft have been compared with the [] results. I would like to get a copy of the comparison. Ex2

3. Please send me the PRONTO input for the aircraft model. I wanted to be familiar with the aircraft mass and stiffness distribution prior to Boeing review of the model to understand the potential Boeing comments.

Thanks.

Mahendra

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Ex2 portions

From: "Smith, Jeffrey" <jasmith@sandia.gov>
To: "Mahendra Shah" <MJS3@nrc.gov>
Date: 8/21/02 3:46PM
Subject: RE: Aircraft analyses assumptions

Mahendra:

I just remembered your other question. The speed of the aircraft for the Pentagon was from a draft of the report on the Pentagon. I don't believe that is yet published. I believe Greg got a copy of that from Steve Attaway. So, I am not sure that is a publicly documented speed.

Jeff