2/27/03

Jerry,

Here are our initial comments on the revised contract. I will send you a full list next week after everyone finishes reviewing it. Since I am off work Friday and Monday, I thought I would give you something for a head start, if you desire. You will find our concerns related to the mode of deliver for the bulk explosive on number 4 below.

Bernie

1. Page 10: Task 1.1C: Rod-to-Cask Source Terms

Assuming there is a release from the HI-STORM, the release fractions will be developed using the release methodology documented in NUREG/CR-6672. These release fractions are from rail and truck accident scenarios and may not be adequate for Task 1. SNL needs to justify using this release fractions. This is one important variable.

The NUREG/CR-6672 methodology developed expressions for the release of fuel pellet constituents from a spent fuel rod failed by a small tear. If part of the rod is completely disrupted by a [redacted] I would assume that the rod-to-cask release fraction from this [redacted] and the release fraction from the undisrupted lengths of the rod would the number developed by NUREG/CR-6672. Ex 2

2. Page 10: Description of the Task 1.1Dii is missing.

In this proposal revision, task descriptions have been deleted for all tasks, which SNL no longer expects to be performed. Because we do not think that [redacted] the HI-STORM canister, Task 1.1Dii no longer needs to be done and therefore this is one of these tasks. Ex 2

3. Page 11: Based on the Revision 1 of the SOW, the code demonstration was required to be in Sandia offices. I do not see the reason for elimination at this point. A simplified model would help us to run some aircraft analyses on LS-DYNA here for any changes in the current Sandia analyses, or for different casks. Can SNL develop a simplified model for the plane (lumped masses and springs type model) so that tasks 1.3Bi, 1.3Bii, and 1.3Biii are not eliminated.

It is not clear whether SNL can develop a useful general model of a jetliner for LS-DYNA that can be run on a desktop high-end PC. A simple SPH model could be constructed that would treat the jetliner like a fluid. This might allow global impacts to be examined with some degree of fidelity. A lumped mass and spring model could be constructed, but might not be general and thus might apply to only one jetliner and perhaps only one impact scenario (speed and angle of impact). We need to discuss this task further to define what capabilities would be useful to NRC and whether the desired capabilities can be provided using LS-DYNA and a desktop PC.

4. page 12, SNL has proposed not performing most of the small plane evaluation stating that it is the same as the [redacted] SNL needs to justify that [redacted] It is my understanding that the Director of CIA has indicated [redacted] Ex 2

We have stated that the damage done to a spent fuel package by [redacted] We have also noted that the [redacted] might easily be significantly larger than [redacted] that you sent us. Since we believe that amounts as large as [redacted] are significant. Ex 2

Ex 2 portions