TA BRIEFING ON NEI'S COMMENTS ON DECOMMISSIONING RISKS

SEPTEMBER 29, 1999

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OVERVIEW

* Staff Conducted broad preliminary risk analysis to determine which scenarios were most significant and deserved additional evaluation (i.e., had potential risk).

Risk-informed vs. Risk based

** There were four types that could not be eliminated and required further study: long term sequences, short term sequences, heavy loads, and seismic.

~~Broad analysis~~ NEI initially only seismic. We did broad analysis
Some dominant initiators not expected - e.g. heavy loads.
We expected very low numbers. That's not what we got

All along we planned this.

** As planned, we are subjecting our draft risk assessment to review by a National Laboratory

* Our preliminary analysis has been subject to public meetings and workshops FOUR

* NEI requested early involvement, which resulted in the release of the staff's draft report on the risk from spent fuel pools at decommissioning plants. We made it clear work was preliminary, did not want to argue numbers but rather what existed at plants or would exist to mitigate concerns.

WHAT DID WE GET FROM NEI'S REVIEW?

Not formally committed to.

(1) ~~Great~~ Excellent recommendations. The recommendations found in Section 5-2 of the NEI report change our perception of the risk from spent fuel pools at decommissioning plants. The following are example recommendations from Section 5.2 of the NEI report:

Can't emphasize enough. May be enough in conjunction w/ a few things to make us all happy.

(a) maintain recently discharged fuel in lower density storage racks separated from the rest of the fuel racks,

(b) allocate resources to both procedures and training to ensure offsite resources and all onsite resources can be brought to bear on a problem,

(c) assure communication tools would be available in severe weather and seismic events,

(d) install readouts and alarm (from 2 channels) in the control room including spent fuel pool (SFP) level, temperature, pool cooling flow, and area radiation, and

(e) implement administrative controls over areas such as cask movement over the SFP and gate removal.

(2) Our seismic analysis results only differ slightly from NEI's ~~by about a factor of two~~. ~~This is~~ well within the range of uncertainties. At our request, NEI developed a check list to help determine if an SFP has a potential vulnerability to beyond design bases seismic events at the site. We are reviewing NEI's proposed check list in conjunction with review by an independent expert. Bob Kennedy

(3) NEI provided comments on alternative approaches to technical analyses for SFPs at decommissioning plants. Some comments were helpful, some require additional documentation or bases, and some comments continue to be at odds with staff thinking. I have detailed review of their recent 9 pages – including INEEL

(a) additional development of HRA methods to deal with long term events should result in the probabilities of human error going down on many sequences. Such an effort involving HRA experts is in process. Preliminary

expert comments are trending to lower risk estimates for long term sequences.

(b) NEI pointed out that the staff may have inappropriately included some actual loss of inventory events in its estimation of the frequency of loss of inventory at decommissioning plants. If confirmed, the error would reduce the loss of inventory frequency by about a factor of 2. However, the staff has uncovered

additional events, some of which may need to be added to the count.

(c) The frequency with which a cask drop might cause spent fuel pool rupture is probably lower than estimated in the draft report, based on improved statistical analyses.

(d) Table 5-1 of the NEI report provided revised frequency estimates for various accident initiators and

compared them to the staff's estimates. While the staff's draft report provided event trees, fault trees, basic event probabilities, and detailed assumptions, no bases were provided for the NEI estimates.

(e) On page 25 of the NEI report, it appears they assumed decommissioning plants still have their originally installed spent fuel pool cooling system including all support systems such as service water system, component cooling water system, and residual

heat removal system. The staff's visit to four decommissioning plants found these systems were removed and replaced by low capacity, skid-mounted heat removal systems.

(f) Many of the data or probability differences NEI pointed out were trivial (factor of 2 to 4 difference in frequencies or probability) given the normal range of variation in this type of data. Examples include frequency of loss of

offsite power, ac power nonrecovery frequency, and frequency of fire initiation.