Question: What is the difference between the NRC's risk assessment and the one produced by the Con Ed?

Answer: The NRC's analysis evaluates the risk increase caused by the degraded *condition* of the steam generator tubes. The most severely degraded tube could have ruptured for a variety of reasons under a variety of circumstances. The NRC's analysis considers all of the circumstances in which the tube might have been induced to fail or might have failed spontaneously. For each circumstance, the NRC evaluated the frequency of the circumstance, the probability that the tube would fail under that circumstance, and the probability that the circumstance, when complicated by tube failure, would lead to core damage. The NRC used the sum of the results for all circumstances as the measure of the risk created by the tube degradation.

The licensee's analysis considered only the specific features of the spontaneous tube failure *event* as it occurred on February 15, 2000. Credit was taken for the specific leak rate that occurred being less than the leak rate assumed in most Probabilistic Risk Assessments. For the lower leak rate, there is more time for the plant personnel to take the actions that are necessary to prevent core damage. This makes the probability of human error lower. Because the probability of core damage following a steam generator tube rupture is dominated by the probability of human errors (which is higher than the probability of equipment failures), the licensee's re-evaluation of the human error probabilities led to substantially lower results. However, it neglects the potential for the tube failure to have a much higher flow rate. It also neglects the potential for the tube failure to have been induced by other circumstances that would have complicated the recovery process that the plant personnel needed to accomplish to prevent core damage. Therefore, the NRC does not consider the licensee's approach to be appropriate for establishing the risk significance of the tube degradation that occurred.