From: "Michael Mulligan" <steamshovel685@earthlink.net>
To: "Victor L Dricks" <vld@nrc.gov>
Date: 10/10/01 4:42PM
Subject: Safety Concern; Initial Plant Delicate Cooling Water Designs and maintenance at power

Mr. Dricks,

I added some paragraphs and did some corrections to the below.

mike mulligan

Hinsdale, NH

Subject: Safety Concern; conning the people and NRC corruption

Mr. Dricks

What kind of risk does the public face in shutting down a nuclear plant for maintenance or component problems? Is there any difference in calculated risk between a potential normal shutdown, calculated risk after a shutdown or a severe plant accident with multiple component failures after the trip? How they express risk may just depend on what outcome they are angling at, independent of actual risk.

The NRC characterizes the Pairie Island NOED (01-03-002) as a potential " unit shutdown that does involve some risk". In the accepted NRC justification of the NOED, there is no mention that a reduction with redundancy of Safe Guards AC, and a plant trip at normal temperature, pressure, and peak decay heat; is not at all problematic. What has more risk, at power just before a trip, or one in which RHR (low temperature, low pressure and much lower decay heat) can be used. The shutdown "does involve some risk" become a very inflammatory statement focusing all the perceive risk towards a shutdown. Pairie Island was just campaigning to remain up at power, which was not deserved, and the NRC swallowed.

At the time of writing the Pairie Island NOED (01-03-002), the NRC had no idea that in the near future, the utility would have violated a commitment of the NOED. The NRC would later find out that both Diesel Generators were in a preventable degraded condition and there was a question if Pairie Island had kept information from the NRC. All of this degradation was not available in the initial risk assessment.

Let see how the Seabrook station characterizes risk during a severe snowstorm accident and preventable plant trip with complications. Accord to the Seabrook LER, "This event is significant in that multiple plant components were challenged. However, the risk significance of this event was minimal". They go on to justify the unexpected failures during the accident of over five major components and let not forget the problems with off-site notifications.

South Texas unit two had a defective switchyard breaker in LER -01-002 that cause an unexpected plant trip. Switchyard breaker failures have been a problem with this utility in the

past. They characterize the event as "This event was reviewed for risk impact and found to be risk insignificant since the conditional core damage probability is less than 2x10.

The South Texas unit one NOED (01-4-002) of Sept 23, 2001 creates additional concerns. We've noticed many past amoral NOED issued around components that failed in surveillance testing, or components that failed during testing after on-line maintenance. Just why they haven't designed any conceivable component failure in a safety system into a quick-change design, which is engineered into the LCO timeframe, remains a mystery to me. I got an idea, why don't you prohibit post maintenance and surveillance testing. You could use that risk significance thing. This would solve all you problems. Then we could say at least you are consistence with you fantasy life throughout the system. Simple minded consistency is what this world needs. I bet the NRC never asked unit one, just what other deferred maintenance could be preformed in the controlled shutdown, which would increase safety and grid reliability.

It's totally amazing. These guys are in a coastdown, heading towards a near refueling and maintenance period. Why didn't they perform the overhaul it in the maintenance period? You got three cooling loops with three 50% pumps. Something doesn't seem right to me. You got the system needing two pumps most of the time creating a heavy-duty situation. I got a safety concern now. That the three pumps doesn't provide enough excess capacity, having only three pumps severely limits facility operational, emergency and maintenance flexibility. Doing maintenance on line with this plant's initial design deficiency creates the potential of a serious accident when one pump is down. Lets see, redundant nuclear safety systems typically have two identical 100% sub systems, which leads to a 200% total capacity, and many times additional single trains in addition to the 200%. Everyone is safe with STP having only a 150% ECS capacity and this question of asking special permission to remain up at power. Imagine what you could do with an ECS system with four100% pumps-you could work on two pumps at a time while up at power. STP ECS is of a poor design, and should not be included in any nuclear plant safety defense-in-depth, and is particularly riskful with maintenance at power.

Again the NRC's characterization of the utility characterization of shutdown risk, is an inflammatory statement of the worst kind. "You stated that allowing the additional 5 days was preferable to the potential consequences associated with a plant shutdown, and." These words are seriously distorting the risk of accidents with shutting down a nuclear power plant. The compensatory measures stated are operationally, and engineering wise, extraordinarily shallow and meaningless. Like empty calories. Has their been any actual training and system practice manipulation going in and out of the lines-ups of the stated actions. Do you have any proof that the compensatory measures will work as advertised? These are the concrete safety proofs and assurances that the people and the equipment, will operate as expected.

Whether it's a normal projected plant shutdown, a plant trip, or a severe plant trip and accident, the utilities use starling contradictory words to express risk. They don't do much better when they use numbers; you just understand what the numbers mean and neither can they. No matter if it's a very trouble utility desperately trying to stay up a power, or another utility desperately trying to justify a preventable and complicated plant trip, their expression of public risk defies explanation. Could somebody please explain the difference between a normal planned shutdown that does involve some risk, and a hard plant trip, which was risk insignificant? These utilities do not provide the public with any meaningful engineering safety information. The words just express what the utilities and the NRC want the public to "think" what risk is. The public expression of risk by the utilities and the NRC in these examples indicates a callus indifference to the truth.

If you still don't get it, they are saying that the potential shutdown of the Pairie Island potential planned shutdown had more risk than the Seabrook near meltdown.

mike mulligan

Hinsdale, NH

From: "Michael Mulligan" <steamshovel685@earthlink.net>

Subject: Dare we ask?

Date: Tuesday, September 25, 2001 5:46 PM

Dare we ask?

Disquieting questions about our competence

in a dangerous world

By Michael Moran

MSNBC

2. Why didn't engineers understand the implications of a jet-fueled fire in the towers?

There was a time when architects and building engineers conceded what they did not know as readily as they bragged about what they did understand. At the end of the last century and the beginning of this one, as the scale of the bridges and towers man could build increased exponentially, engineers took fewer chances. Look at the older gems of New York's shattered skyline and you find bridges and towers that were over-engineered by 20 times and more. In effect, the mathematical side of engineering was too primitive to construct anything as tall as a skyscraper that wasn't built five or ten times stronger than it had to be.

The Empire State Building, the Brooklyn and George Washington bridges, the Holland and Lincoln tunnels, are built to withstand many times the stress necessary - 80 times the required stress, in the case of the Brooklyn Bridge. By the 1970s, when the World Trade Center towers were built, architects and engineers designed with a precision that allowed them to build things only exactly as strong as they needed to be. This saved enormous amounts of money, of course. By the 1990s, computer models and other advances allowed for even greater precision - not only in structural design, but in accounting for the effects of wind or earthquakes or, even, airliner impacts.

Harry Seidler, an Australian architect who designed several of the world's largest towers, visited the World Trade Center during its construction in the early 1970s and was shocked.

"I was extremely surprised at the time that the construction was so delicate," he told an Austrian newspaper, Die Kleine Zeitung, on Monday. "It was the lightest I have ever seen." Seidler said the tower's design would never have won approval in Europe or Australia.

Why then, were engineers incapable of predicting the horrific results of high-temperature fires with similar precision? Reports suggest that it began to dawn on the engineers working with the rescue crews outside the towers that they might collapse if the temperatures inside the tower, which were designed to contain such fires, continued at 20,000 degrees or higher. The towers were supported by huge steel columns running through their centers. The impact of the airliners likely compromised these seriously, and the weight of the floors above then shifted to the less robust outer support beams. Eventually, the fire melted these outer beams until they collapsed. Each beam was designed only to support the weight of those above them. When suddenly that weight doubled and tripled and quadrupled as each successive floor collapsed, implosion became inevitable.

It all seems too obvious now. Going forward, structural engineers and architects need to search their souls and hard drives for the implications. An under-reported story on that tragic day is the number of people who actually DID get out. That number would have been higher if our engineers and architects had been a bit more humble, and our developers a bit less concerned with the cost of building materials.

-some suffix

Characterized by a specified quality, condition, or action: bothersome.

A group of a specified number of members: threesome.

some (sùm) adjective

1. Being an unspecified number or quantity: some people; some sugar.

2. Unknown or unspecified by name: Some man called.

3. Logic. Being part and perhaps all of a class.

4. Informal. Remarkable: She is some skier.

pronoun

1. An indefinite or unspecified number or portion: We took some of the books to the auction. See Usage Note at every.

2. An indefinite additional quantity: did the assigned work and then some.

adverb

1. Approximately; about: Some 40 people attended the rally.

2. Informal. Somewhat: some tired.

min·i·mal (mîn¹e-mel) adjective

1. a. Smallest in amount or degree. b. Small in amount or degree. c. Only barely adequate.

2. Often Minimal . Of, relating to, or being minimalism.

- min´i·mal¹i·ty (-màl¹î-tê) noun

- min¹i·mal·ly adverb

Usage Note: Etymologically, minimal is properly used to refer to the smallest possible amount, as in The amplifier reduces distortion to the minimal level that can be obtained with present technologies. In recent years, however, the word has come to be used to refer simply to a small amount, as in If you would just put in a minimal amount of time on your homework, I am sure your grades would improve. Critics have often objected to this extension, but it appears to be well established. To determine the acceptability of the newer use, we presented the Usage Panel with the sentence Alcohol has a particularly unpleasant effect on me when I have a minimal amount of food in my stomach. Under the strict interpretation of minimal, this sentence should mean only "Alcohol has an unpleasant effect when I have eaten nothing." If the looser interpretation is allowed, however, the sentence can also mean " . . . when I have eaten a bit." Presented with the sentence, 29 percent of the Usage Panel said that it could have only the "eaten nothing" (that is, the strict) interpretation; 34 percent said that it could have only the "eaten a bit" (that is, the looser) interpretation; and 37 percent said that it could have either meaning. Thus the looser sense of minimal is accepted by 71 percent of the Panel and must be considered acceptable in nontechnical use. · In an analogous shift, the verb minimize is often used to mean "to reduce," an extension of its strict etymological sense of "to reduce to the smallest possible level." This looser usage is the result of the imprecision that usually attaches to the use of the verb in most nontechnical contexts. When a manager announces that The company wants to minimize the risk of accidents to line workers, we naturally interpret the manager as meaning that the risk is to be reduced to the smallest level consistent with considerations of efficiency and cost, not that risks are to be reduced to the lowest level logically possible. Even when used with allowable imprecision, however, the verb minimize should carry some implication that the relevant quantity is reduced as much as could reasonably be expected in the circumstances. Thus minimize retains at least an approximately superlative sense and so is inconsistent with modification by adverbs such as greatly or considerably, which imply that the verb is being used as a simple synonym for lessen or reduce.

in·volve (în-vòlv¹) verb, transitive

in·volved, in·volv·ing, in·volves

1. To contain as a part; include.

2. To have as a necessary feature or consequence; entail: was told that the job would involve travel. See synonyms at include.

3. To engage as a participant; embroil: involved the bystanders in his dispute with the police.

4. a. To connect closely and often incriminatingly; implicate: evidence that involved the governor in the scandal. b. To influence or affect: The matter is serious because it involves your reputation.

5. To occupy or engage the interest of: a story that completely involved me for the rest of the evening.

6. To make complex or intricate; complicate.

7. To wrap; envelop: a castle that was involved in mist.

8. Archaic. To wind or coil about.

do (d¡) verb

did (dîd) done (dùn) do·ing, does (dùz) verb, transitive

1. a. To perform or execute: do one's assigned task; do a series of business deals. b. To fulfill the requirements of: did my duty at all times. c. To carry out; commit: a crime that had been done on purpose.

2. a. To produce, especially by creative effort: do a play on Broadway. b. To play the part or role of in a creative production: did Elizabeth I in the film. c. To mimic: "doing the Southern voice, improvising it inventively as he goes along" (William H. Pritchard).

3. a. To bring about; effect: Crying won't do any good now. b. To render; give: do equal justice to the opposing sides; do honor to one's family.

4. To put forth; exert: Do the best you can.

5. a. To attend to in such a way as to take care of or put in order: did the bedrooms before the guests arrived. b. To prepare for further use especially by washing: did

does (dùz) verb

Third person singular present tense of do1.

in·sig·nif·i·cant (în´sîg-nîf¹î-kent) adjective

1. Not significant, especially:. a. Lacking in importance; trivial. b. Lacking power, position, or value; worthy of little regard. c. Small in size or amount.

2. Having little or no meaning.

- in´sig·nif¹i·cant·ly adverb