CHAIRMAN Resource

From: Tom Gurdziel <tgurdziel@twcny.rr.com>
Sent: Sunday, August 12, 2018 10:48 PM
To: CHAIRMAN Resource
Cc: Esberg, John R:(GenCo-Nuc); 'Ed Stronski'
Subject: [External_Sender] Comments on Accident Tolerant Fuel (ATF) "PIRT" Exercises Meeting of 6/12/2018

Good morning,

I just finished listening to the first 3 hours of this 4 hour meeting. These people are talking about efficiency BUT the goal really seems to be quick results. I do not think these ideas generally are the same thing. In fact I would expect that getting things done quickly is going to take additional resources/money (than doing the work "efficiently.")

Secondly, I get the impression that they want the Phenomenon Identification and Ranking Table, (PIRT), to be done once and to cover every possible condition for each of the 4 or 5 categories provided. It is my opinion that this is impossible. What I think is needed is a bunch of boundary conditions provided by experienced and knowledgeable senior NRC people. (One boundary condition would be to limit enrichment to 5% or less.)

How many Accident Tolerant Fuel experts are needed on the NRC staff to meet the industry-desired ATF schedule? How many are presently on staff?

Thank you,

Tom Gurdziel

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From: Tom Gurdziel <tgurdziel@twcny.rr.com>
Sent: Monday, August 13, 2018 9:14 PM
To: CHAIRMAN Resource
Cc: Esberg, John R:(GenCo-Nuc); 'Ed Stronski'; Bridget Frymire
Subject: [External_Sender] More Comments on Accident Tolerant Fuel (ATF) "PIRT" Exercises Meeting of 6/12/2018

Good morning,

I have finished listening to the meeting. Here are some additional thoughts on the Accident Tolerant Fuel subject.

1. I was disappointed that the services of a telephone operator were not obtained, either before the meeting or during the first 15 minute break.

2. The early part of the meeting was like 2 different meetings. Industry people assumed a certain order would be followed during the Accident Tolerant Fuel approval process even though agency people had already presented a different order or process. I believe it was only when one determined telephone caller described the meeting to that point as “nebulous” that, maybe, minds were opened on both sides.

3. The idea of such a meeting where commenters could respond to the comments of others was, I think, unusual and valuable.

4. How tolerant can fuel be? I don’t think I can shut off water to an operating reactor, kill all the electricity and feel confident that my already-loaded Accident Tolerant Fuel will not be damaged. So, tell me the limits of tolerance. Is it 2 hours without cooling water or loss of DC at “X” minutes or no makeup water to the (passive) emergency condensers at 8 hours? Because I do not believe we can build nuclear fuel that will never experience damage, do you?

5. Did you notice it took 29 minutes and 54 seconds before the listener saw, on a slide, what “PIRT” means?

6. I worked on two PRAs for BWR plants (both still in operation today.) When we built our failure “trees”, we always ignored ALL passive failures. Does the “PIRT” process also ignore significant amounts of possible trouble-causing passive equipment? Does it “screen out” events of low probability because they “probably” won’t occur?

7. Is the fuel tolerance for an accident at least partially the result of operator action(s)? How many? How do you handle time requirements? (In the early PRA days, human action was considered just short of perfect due to the expectation of sufficient time. Is this realistic today, (or even then)?)

8. Does “FLEX” equipment exist when considering Accident Tolerant Fuel?

9. Would a 2 week investment in additional individual operator-crew training using “FLEX” equipment, (including “clutch time” on excavating equipment), and emergency procedures be more cost effective than studying, accepting and buying “Accident Tolerant Fuel”?

10. Where is the expertise? It doesn’t appear we have a sufficient amount either on our NRC payroll or available on NRC contract. This is a very big problem. Here is an idea. For any concept, have 2 isolated, independent groups of experts attack it. (There would be no NRC involvement at this stage.) When they are both done the NRC

makes a decision of one or the other or a combination of the two, or none. This means the industry experts supply the expertise and the NRC supplies a decision of what is sufficiently low in risk to be acceptable. (This may also speed things up considerably.)

Thank you,

Tom Gurdziel

Initially 5 independent efforts were undertaken in the United States to develop the atomic bomb. This is the source of my comment #10. A reference is: “Now It Can Be Told, The Story of the Manhattan Project” by General Leslie M. Groves, page 10.