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# NUCLEAR REGULATORY COMMISSION

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Joint Subcommittees:
Materials and Metallurgy
Thermal Hydraulic Phenomena
Reliability and Probabilistic Risk Assessment

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rationale.

MR. ERICKSONKIRK: Yes. What we do find on the graph on the lower right-hand side is that the flaws that are driving the through-wall cracking frequency fully 90 percent of them are fairly small flaws and that's the observation.

DR. WALLIS: Because there aren't very many big ones? Is that what it is? It's more probable that you would have a small flaw under the surface?

MR. ERICKSONKIRK: Absolutely. There's a very low probability of having big flaws and even if you increase the big flaw probability by credible, or even incredible factors, it wouldn't matter much. I apologize for that. You are absolutely correct. The first rational was erroneous.

DR. WALLIS: This flaw distribution is based on rather skimpy evidence. This is one of the areas where -- I mean, heat transfer Dittus-Boelter if you believe that. It's based on data points. But the floor distribution in these walls is based on a few examinations. Isn't it?

MR. ERICKSONKIRK: A few examinations but infinitely more than we had the first time.

DR. WALLIS: It's much better than you had



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the first time.

MR. ERICKSONKIRK: Much better than we had the first time. I think as a laboratory geek at heart I have to admit I would really like to have more data on this and I don't think there's anybody in the technical community that would disagree with this.

But I think it's also important to recognize that the flaw distribution doesn't rest on experimental evidence alone. Certainly we started with -- excuse me. We start with experimental evidence both from destructive and nondestructive evaluations but that's then also bolstered by --

DR. WALLIS: But those were of individual reactor vessels.

MR. ERICKSONKIRK: That's right.

DR. WALLIS: But there are a hundred reactor vessels. I don't know how convincing it is that the flaw distribution that you measured in a couple of vessels which were taken apart is typical of all other vessels.

MR. ERICKSONKIRK: No. I think it would be unfair to say that a single experimental distribution derived from two vessels could be just looked at and thought to be representative of the other vessels.