

Original Due Date: 10/08/2004

Ticket Number: 020040136

Document Date: 06/26/2004

NRR Received Date: 07/08/2004

From:

W. Brown C. Eng MIEE

TACs:

MC3708

To:

Tad Marsh

*** YELLOW ***

For Signature of:

Routing:

Dyer
Borchardt
Sheron
Case
NRR Mailroom

Description:

Re: Containment Pressure etc (discussion of ISA Method)

Assigned To:

DLPM

Contact:

MARSH, LEDYARD (TAD) E

Special Instructions:

DE to provide input.

Memo from
W. Brown C. Eng MIEE

21734 Park Brook Drive

KATY TEXAS 77450-4632

Tel: 281 578 1898

Date: Sat June 26 2004

Att Mr. Ledyard b Mersh, Director
Division of Licensing Project Management
Office of NRC Reactor Regulation

The United States Nuclear Regulatory Commission
WASHINGTON DC 20555-0001

Dear Mr Mersh,

I am writing to you as a member of the public – I do not work for or represent any commercial organization or institution. I wish to express my concern at some of the content of your letter of June 17th 2004 to Mr Alex Marion at NEI. It is quite possible that, as a member of the public it would have been proper for me to address my concern to some other department of NRC and if that is the case then I will be grateful if you will pass this memo along as appropriate.

Please note that I am only addressing my concern to you as a matter of trying to be helpful and to help make certain that all valid points are considered before any changes are made to current regulations. Although I am a member of the ISA committee 67.04 I am not a member of the committee which is dealing with the present considerations of Allowable Values etc. I am particularly concerned that we should, if possible, deal with the Single Sided/Double Sided question once and for all. I am available at almost any time for discussion via telephone calls.

My concern is with the discussion of ISA Method 3, in particular the example (Re Containment Pressure etc) beginning at the bottom of page 2. Specifically I am concerned about the dismissal by your staff of Method 3 of ISA 67.04. This method has been in wide use in the industry for over twenty years as far as I am aware and indeed if it is non-conservative (And it is not) then why has it taken so long to address the problem?

I realize that, as per the statement in the fourth paragraph, the NRC has not specifically endorsed Part II of 67.04 but the fact is that Method 3 was in wide use in the industry long before 67.04 Part II was published. The 67.04 committee (Of which I have been a member for some twenty years) did not formulate Method 3 - they simply included it because it was a method in use by a major reactor manufacturer (GE) - as was one of Methods 1 & 2. - I can not remember which one at the moment - I think the other one was just someone's idea.

Unfortunately I can not do a detailed analysis of the example case because I am not in possession of a copy of the original calculation. If you will get someone to send me one I will happily do a further analysis.

I find the example a little unusual in that (a) the TSP - AV margin is some 23% of the Setpoint this suggests fairly crude or crudely applied instrumentation for the

application. . . (a) No mention is made of Design Basis Accident allowances for the non-COT portion.

There is no question that if the loop error was found to be of the magnitude of the TSP – AV margin and was left at that point without correction then the system would be non-operable and probably in an LCO. In fact, according to my thumb nail calculation the probability of the system failing to trip would be 0.338 i.e. 33.8% not 25%

I cannot believe that any plant staff would discover an error of this magnitude and leave it un-reported or uncorrected – however just how much error can be left uncorrected is a function of each plant's procedures as to As Left Allowances and Margins which require careful review and verification. Where such careful attention has been paid to As Left practices then there is no reason to question Method 3. At best (or worst ?) calculation could be given to the calculation of (Additional) discrete Allowable Values for COT surveillance procedures.

I recently sent some comments to the ISA 67.04 committee for consideration at their recent Colorado meeting. Some of my comments cover the Method 3 problem. I expect that the members of your staff who are also members of 67.04 will have copies of these available and it might be worth looking at them. Also included in the notes are my thoughts and past actions as to the Allowable Value/LSSS discussions. - On which I agree with your staff.

On your para 2 of the 'salient facts' on page 3 of the problem statement either me or your staff are out of step somewhere here i.e. – the paragraph keeps stating/using 5%/95% for this that and the other (. . . 0.85 psig required to ensure that 95% of all . . .) and this is quite wrong. Factually 2.5% and 97.5% should be substituted for 5% and 95% in all cases because we always mean 5%/95% double sided. All safety related trips are single sided thus they are meant to have only a 2.5% probability of excess with a resultant 97.5% Confidence Level – the remaining 2.5% of the margin occurs in the conservative direction. This loose use of these values has and does lead people to speculate that, for 5%/95% single sided 1.65 Standard Deviations might be acceptable – which, in my view, it is not. My reasoning is as follows - If we simply require 5%/95% then that may not seem to exclude 1.65 Standard Deviations single sided – however Reg Guide 1.105 Issue 1, which was in use long before 67.04 Part II was developed, states that the required level of probability is 95% 2.0 Sigma (2.0 Standard Deviations) – which inarguably excludes the use of 1.65 Standard Deviations. Issues 2 and 3 of 1.105 were/are less clear on this detail but, unless of course the NRC meant to gratuitously give away a 2.5% margin then the 95% 2.0 Sigma requirement should stand – and this should be expressed more clearly.

My real concern over this matter is that if we loosely decide to exclude Method 3 as an acceptable procedure then, at enormous expense, calculations which were performed and accepted by the NRC over twenty years ago and long before the publication of 67.04, will have to be re-done.

With thanks and appreciation for your assumed indulgence of my thoughts thus far, I am sir,

Yours sincerely (W. Brown)

