AP1000DCDFileNPEm Resource

From: Loza, Paul G. [lozapg@westinghouse.com]
Sent: Wednesday, February 17, 2010 2:02 PM
To: Donnelly, Patrick
Cc: Buckberg, Perry; Butler, Rhonda; Peck, Donald E.; Brehm, Jason A.; Lindgren, Donald A.
Subject: Acknowledgement of RAI's - RAI-SRP6.2.2-SPCV-31 & RAI-SRP6.2.2-SPCV-26 R1

Patrick,

I acknowledge receipt for Westinghouse of RAI-SRP6.2.2-SPCV-31 & RAI-SRP6.2.2-SPCV-26 R1. A response to each will be forthcoming.

Thanks,

Paul

From: Donnelly, Patrick [mailto:Patrick.Donnelly@nrc.gov]
Sent: Tuesday, February 16, 2010 3:50 PM
To: Lindgren, Donald A.; Loza, Paul G.
Cc: Schulz, Terry L.; Hayes(NRO), Michelle; Jackson, Christopher; Snodderly, Michael; McKenna, Eileen; Hebbar, Sudha; Butler, Rhonda
Subject: AP1000 - New Draft RAI's - RAI-SRP6.2.2-SPCV-31 & -26 R1

Don, Paul-

Below are two new draft RAIs on SRP 6.2.2. Please let me know if they are accepted or if a conference call is desired.

Regards,

Patrick

RAI-SRP6.2.2-SPCV-31

This is a follow on to RAIs-SRP6.2.2-CIB1-26 and 27.
a)The scale was observed to measure the data with a +/- .06 g tolerance. However, when the +/-.06 tolerance is discussed in the RAI responses (page 4 of RAI-SRP6.2.2-CIB1-26 and page 3 of RAI-SRP6.2.2-CIB1-27), it is applied to the calculated values rather than the individual scale measurements. Because these calculated values are based on two to six different measurements, it is expected the uncertainty in the calculated value will be larger than the uncertainty of each scale measurement. Explain why the calculated value has the same uncertainty as the scale, regardless of how many measurements are used in the calculation.

b)The scale tolerance is stated to be ± .06 g based on the experimenter's observation of a maximum .04 g drift. Because no statistical analysis was provided and no explanation was given as to why this drift exceeded the manufacturers stated tolerance of ±.01 g, it cannot be confirmed that the ±.06 g tolerance includes any margin. Provide a statistical basis for the stated tolerance.

c) The reviewer cannot reproduce the values from Test WE213-4W of Table 7-6 discussed below. Please either provide the equations or explain where the following are errant.

- Assuming "Mass of debris residue (ALOOH)" = "Final mass of beaker with magnetic stirring bar and debris residue after heating " – "Mass of clean beaker with magnetic stirring bar" , 81.12-81.09=.03 g, compared to the .12 g reported in Table 7-6
- Assuming "Mass of boiled-off H2O" = "Initial mass of beaker with magnetic stirring bar and solution" - "Final mass of beaker with magnetic stirring bar and debris residue after heating" , 197.67-81.12=116.55 g, compared to the 116.46 g reported inTable 7-6.
- Assuming "Amount of ALOOH per Liters of H2O" is "Mass of debris residue (ALOOH)" / "Volume of boiled-off H2O", the results from above give .03/.11655 = .257 g/L versus the 1.03 g/L reported in Table 7-6. The resultant corrected ALOOH concentration is then 49 ppm versus the 197.6 ppm reported in the corrected concentration on Page 4 of RAI-SRP6.2.2-CIB1-27.

d) In WCAP-16914-P, Table 7-3, the "Concentration of ALOOH in suspension in the flume" could not be reproduced. It appears the background solids are subtracted to get the "Mass of debris residue (ALOOH)" and again to get the "Concentration of ALOOH in suspension in the flume". Please provide the equations for both these calculations.

e) Please provide a tolerance on the corrected concentrations given on Page 4 of RAI-SRP6.2.2-CIB1-27.

f) On page 4 of RAI-SRP6.2.2-CIB1-26, the value for "Background Solids Sample", "Initial Mass of beaker with magnetic stirrer and clean water" is less than the mass of the empty beaker. Please confirm this value.

RAI-SRP 6.2.2-SPCV-26 Rev. 1

a) The IRWST screen dP is based on Case 3 flow, which correlates to .27 psi at 402 gpm. The associated head loss at a flow rate of 310 gpm is then expected to be .27(310/402)^2 = .16 psi. Please explain why the head loss is set to the apparently less conservative 0.25 psi for a flow rate of 310 gpm.

b) The RNS operation is bounded by the minimum IRWST flow but the maximum CR flow. Please explain why the minimum CR flow wasn't used to bound RNS operation.

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From: Loza, Paul G.

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