From: Michael Modes
To: Coffin, Stephanie, Cranston, Gregory, internet:doddcv@aol.com, Lew, David, Murphy, Emmett
Date: Fri, Mar 24, 2000 8:58 AM
Subject: Summary of EC Problems at IP2

I assume you heard IP2 is C3 in two generators ... their tech. spec. says they now need our permission to restart. Thus NRR "concerns" now become a little more important.

I updated this to include the input from Cass Dodd about the current state of the plus point calibration. I assume your silence means you don't have a problem with my characterization of the problem?
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The S/N ratio of the '97 EC data was not good. The noise level was great enough that it masked small signals that alert an analyst to the possible presence of PWSCC. The '97 data contained small indications that are precursors indicative of PWSCC. The precursors were procedurally screened out because IP2 was not sensitive to the importance of this signal. In addition, when evaluating signals that were not screened out, using a plus-point probe, IP2 apparently did not optimize compensation for probe lift-off during their calibration process; thus exacerbating the mis-interpretation of the PWSCC signals.

IP2 is applying essentially the same EC techniques now. The NRC consultant verified that the calibration of the plus-point remains the same as well. It should be noted these techniques are "qualified" and satisfy the regulatory requirements. The techniques, however, still have a less then optimal S/N. IP2 has not generally enhanced their EC techniques but are depending on a heightened awareness by the EC analyst to compensate for the weakness introduced by the S/N. This heightened awareness is being reinforced by an additional, tertiary, level of signal analysis.

NRR believes this is insufficient. NRR has discussed EC technique enhancements with IP2. One simple enhancement, increasing the probe frequency, would increase the S/N and reduce the possibility that a small precursor is being masked. NRR is concerned that a masked signal is not amenable to the solution currently being used by IP2: additional analysis. IP2 has not promulgated a supportable crack growth rate for the conditions existing in their generators. Without a crack growth rate NRR believes there is not enough assurance that these masked signals will not grow to rupture during the next operational cycle.

IP2 has tested a higher frequency probe in one tube to compare its results against the currently acquired data in the same tube. IP2's initial and tentative assessment of the results was the data looked "somewhat" better. IP2, however, remains non-committal about further use of the this probe. Although not the optimum frequency and probe size suggested by the NRR consultant NRR thinks it is a small step in the right direction. IP2 is advancing toward in-situ pressure testing. This pressure testing will, if successful, put IP2 in a position to argue that the tubes have sufficient structural integrity to compensate for any weaknesses in EC technique perceived by NRR. NRR is, at this point, unwilling to accept this argument.
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Thanks,
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