

## PMSTPCOL PEmails

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**From:** Joseph, Stacy  
**Sent:** Wednesday, August 18, 2010 4:10 PM  
**To:** 'jetomkins@stpegs.com'; Govan, Tekia  
**Cc:** STPCOL  
**Subject:** Discussion Topics for Public Telecon Next Week on Chemical Effects

- 1) The question on pH transients has not been addressed directly. It still isn't clear whether the most challenging pH transients were considered. For example, wouldn't a final pH of 5.3 be preceded by a period at neutral pH where aluminum dissolves at a higher rate, making a constant pH of 5.3 a non-conservative assumption?
- 2) There was not an explanation for the statement that zinc corrosion products are expected to be the type of particulate as the IOZ coating. The staff was not able to verify this, and NRR and the BWROG are proceeding with plans for integrated testing to determine, among other things, what type of corrosion products come from zinc in BWR environments (both with and without sodium pentaborate injection).
- 3) With respect to the dissolution tests of sodium aluminum silicate, the staff's safety evaluation on WCAP-16530-NP explains that sodium aluminum silicate has a higher solubility in deionized water than in the potable water typically used for head loss testing. Is the applicant aware of this and certain that the deionized water test environment is conservative or representative for the plant?
- 4) The applicant is trying to demonstrate that dissolved aluminum will remain dissolved rather than form precipitates. The sodium aluminum silicate tests were short-term dissolution tests rather than long-term precipitation tests. The test solutions were filtered before chemical analysis. Is it possible that precipitates formed in the test and were removed during the filtering?
- 5) Given the significance of concrete in the chemical effects analysis, has the applicant considered erosion of concrete by LOCA jet? Concrete particulate could be a large surface area to react with the water.

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**From:** Joseph, Stacy

**Created By:** Stacy.Joseph@nrc.gov

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