

# BNL ALARA Center Data Base

U.S.A.

R-449

## PWR PRIMARY WATER CHEMISTRY GUIDELINES:REVISION 3

**Keywords:** PWSCC; GUIDELINES; PH; PWR; CHEMISTRY

**Principal Investigator:**

Gary Brobst  
GEBCO Engineering, Inc.  
P.O.Box 1736  
Sebastopol, CA 95473  
U.S.A.  
Phone: (707) 823-5237

**Project Manager:**

Christopher Wood  
Electric Power Research Institute  
3412 Hillview Avenue  
Palo Alto, CA 94304  
U.S.A.  
Phone: (415) 855-2379

**Objectives:** Review operating experience and new research data to ensure that water chemistry guidelines are consistent with the best know information. A committee of industry personnel was established in 1994 to perform such a review.

**Comments:** Listed below is the summary of some of the key elements included in the revision.

- 1) Minor changes were made to the pH optimization principle to accommodate the requirement to maintain pH(t) for operation greater than 6.9, despite the demand of longer fuel cycles.
- 2) Sulfate was added as a control parameter for power operation as a precaution against PWSCC.
- 3) Changes were made to the technical basis for maintaining silica as a diagnostic parameter.
- 4) Specific recommendations were incorporated for plants experiencing or which by design may have the propensity for axial offset.
- 5) The committee elected to remove constraints for all plants and recommended operation within the 25-50 cc/kg.
- 6) Based on recent plant experience, specific recommendations were incorporated to include a minimum of 24 hours in the acid reducing phase of the shutdown chemistry program.

**Remarks:** Revision 2 Guidelines were shown to have withstood the scrutiny of time. Minimal changes were required to maintain the guidelines positions. It is believed that these guidelines will again withstand the test of time and offer an improved program for PWR chemistry operation.

**References:** Brobst, G., "PWR Primary Water Chemistry Guidelines - Revision 3," Proceedings, EPRI Radiation Field Control and Chemical Decontamination Seminar, Tampa, Florida, November 1995, EPRI Distribution Center, P.O.Box 23205, Pleasant Hill, CA 94532.

**Duration:** from: 1993 to: 1995

**Funding:** N/A

**Status:** Completed

**Last Update:** May 6, 1995