

N14. Experience With Elevated pH At Millstone Unit 3

Radiation fields at Millstone 3 during one cycle of operation with elevated lithium increased by 10%. This was the plant's second cycle since startup and typically an increase of approximately 25-30% would have been expected at this stage of a plant's life. Zircaloy oxide thickness after a total of two cycles are at the upper bound of the Westinghouse Zircaloy corrosion data base. Operation with elevated lithium is being continued for the plant's third cycle, but with a maximum pH of 7.2 instead of 7.4. Lithium concentrations will start to reduce at 1100 ppm boron, compared to 600 ppm boron in the last cycle. This regime was selected to reduce the risk of excessive Zircaloy oxidation while at the same time retaining most of the radiation control benefits of elevated pH. Further examination of Millstone 3 fuel will take place at the next fueling outage at the end of 1990."

For more, see "Progress in Radiation Control Technology," H. Ocken and C.J. Wood (Editors), EPRI NP-6708, February 1990 (Electric Power Research Institute, Palo Alto, CA).