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SWITZERLAND

R-362

WATER CHEMISTRY DURING THE SHUT-DOWN OF THE BOILING WATER REACTOR LEIBSTADT

Keywords: CONTAMINATION PREVENTION; WATER CHEMISTRY;
SHUTDOWN CHEMISTRY; PARTICULATE; HYDROGEN PEROXIDE;
CORROSION PRODUCT

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Objectives: In order to better understand the reasons for activity increase in reactor water during shut-down, an extensive measuring campaign was carried out during the shut-down of the BWR Leibstadt (KKL).

Comments: The measurements began at 72% total power, or 70 hours before zero power, and lasted until 80 hours after zero power. Particle size, size distribution, corrosion product concentrations (Fe, Ni, Cr, Mn, Co, and Zn), and hydrogen peroxide concentration were measured.

Remarks/Potential for dose limitation: Peaks in activity are mainly caused by undissolved corrosion products. The concentration of hydrogen peroxide increased rapidly when the temperature dropped below 160°C.

References: Wedda, H., Loner, H. and Schenker, E., "Water Chemistry During the Shut-Down of the Boiling Water Reactor Leibstadt," *Water Chemistry of Nuclear Reactor Systems 6*, Vol. 1, pp. 194-195, British Nuclear Energy Society, London, 1992.

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