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EFFECT OF VVER WATER CHEMISTRY ON DOSE RATE

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Principal Investigator:

M. Zmitko
Nuclear Research Institute REZ
REZ, 25068
CZECH REPUBLIC
Phone: 422 685-7147

Project Manager:

Jan Kysela
Nuclear Research Institute REZ
REZ, 25068
CZECH REPUBLIC
Phone: 422 685-7147

Objectives: To compare the water chemistry in use at different VVER plants and to see its effect on radiation fields and dose rates.

Comments: Operational experience with VVER primary water chemistry and radiation field control were investigated. Radiation field measurements were made at the primary system components and occupational doses were also measured in several countries that own VVER type plants. The differences in water chemistry guidelines between VVERs and different operational practices have different impacts on the radiation fields.

Remarks: Special emphasis was given to corrosion product measurements on the surface and in the coolant and to radiation dose measurements at the steam generator collectors and primary piping.

Unexpected radiation field trends in different VVER units are correlated with water chemistries, thermal hydraulics and reactor core data.

References: Kysela, J., and M. Zmitko, "VVER Water Chemistry Control and Dose Rate Measurement," Proceedings, EPRI Radiation Field Control and Chemical Decontamination Seminar, Tampa, Florida, November 1995, available from EPRI Distribution Center, P.O. Box 23205, Pleasant Hill, CA 94523, Phone: (501)934-4212.

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