

“Introduction to Optimization in Occupational Radiation Protection for Nuclear Power Plants in China”

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The average annual collective dose per reactor for light water reactor (LWR) and heavy water reactor (HWR) is 0.879 man•Sv and 0.354 man•Sv, repectively in China.The average individual annual dose for LWR and HWR is 0.358 mSv and 0.324 mSv, respectively. Activities such as refueling and maintenance are performed an important role. Besides, some measures involving optimization of occupational radiation protection from regulators also have been discussed.

Detailed Measures for New Plants

- Zinc injection can reduce the concentration of corrosion product in the reactor coolant
- Reducing interval between each refueling and maintenance (namely from 12 months fuel cycle to 18 months fuel cycle)

With regards to learning from experience:

- Lacking clear guidance from international and national standards, NNSA have a difficult task in assessing performance at nuclear plants
- Same comparative activities that have assisted in reducing nuclear plant dose have also created a dilemma in the comparison of one plant to another
- Information systems are very important for management of occupational exposure for contractors