

INVESTIGATION OF GAMMA DOSE CHANGES OF HIGH-DEGREE OCCUPATION HALL OF TEHRAN RESEARCH REACTOR UP TO A FEW DAYS AFTER THE **LOCA** ACCIDENT

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Loss Of Coolant Accident (LOCA) investigation of Tehran Research Reactor (TRR) exactly at the time when the reactor has been operating at its maximum power (5 MW) and the consequent impact of it on the reactor operators and other people in the vicinity of the reactor containment is a very important subject which should be carefully evaluated. The effects of the events have been there since the first nuclear reactor built in 1954. It should be noted that according to the documents, high dose rate (1–2 Sv/h) has been reported inside the rooms of the damaged Chernobyl nuclear power plant after the accident. Considering the different nuclear accidents and the regularity body concerns, the present work aimed to calculate the gamma dose rates in high-degree occupation portions from the TRR hall after LOCA accident. The main purpose of upgrading the technical documentation of the reactor is to ensure the safe operation of the reactor and to ensure the safety of the whole site in such accidents. In the present work, the dose rate received by the staff working in the TRR entrance room after the LOCA accident was investigated when the situation resulted in the complete barring of the nuclear core. MCNPX code was used to model the TRR containment with the most details.

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