

Thermal Hydraulic and Safety Analysis for the Moroccan TRIGA MARK II Research Reactor

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In this study we have calculated some important thermal–hydraulic parameters of the Moroccan 2-MW TRIGA MARK operating under normal condition. We have also presented the analysis of some abnormal situation; the small break loss-of-coolant transients in this pool-type research reactor, with SCRAM disabled, is simulated based on the PARET model previously established and validated for our TRIGA reactor. The study involves the determination of the Departure from nucleate boiling ratio (DNBR), the temperature profile and heat flux across the hottest channel. The results indicate that the peak clad temperatures remain well below the clad melting temperature for small break LOCA accident during long time of these transients and the reactor will have sufficient safety margins against this abnormal situation.

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