

Nuclear Safety

COMISSIONING OF THE IEA-R1 NUCLEAR REACTOR NEW HEAT EXCHANGER

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This work presents results on the commissioning of the new heat exchanger of the IEA-R1 nuclear reactor in the occasion of its operational power upgrade from 2 MW to 5 MW, in comparison to the values calculated in the project of IESA Design and Equipments Company. This reactor is a swimming pool type, light water moderated and with graphite reflectors, used for research purposes and medical radioisotopes production. During monitoring procedures, issues were observed on the reactor operation at 5 MW mainly due to the ageing of the reactor's oldest heat exchanger (TC-A) and excessive vibrations at high flow rates on the other installed heat exchanger (TC-B). So it was decided to provide a new IESA heat exchanger with 5 MW capacity to definitely substitute the TC-A heat exchanger. The results show that the IEA-R1 nuclear reactor can be operated safely and continuously at 5 MW with the new IESA heat exchanger.

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