

Instrumentation corrective maintenance in ETRR-2

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ABSTRACT

ETRR-2 (Second Egyptian Testing Research Reactor) is a multi-purpose, pool- type reactor with an open water surface and variable core arrangement. The core power is 22 MWth, cooled and moderated by light water and with beryllium reflectors. It contains plate- type fuel elements (MTR type, 19.7% enriched uranium-235) with aluminum clad. The reactor thermal power is determined by measurements of the coolant flow and temperature difference at the heat exchanger in primary cooling circuit.

In the Reactor we made some corrective maintenance such as: change position of temperature sensor (RTD) in core cooling circuit; increase the primary circuit flow rate; change the Vibration junction box and Ventilation control system. In the case of the temperature sensor change position; the measurement of thermal power of primary side was not equal to that on the secondary side. This error was due to faulty temperature reading the RTD sensor being closed to the Heat exchanger. ALFA LAVAL, the company, which had delivered the heat exchanger, recommended to place the temperature sensors about 10 to 12 diameters away from the heat exchanger outlet.