

## Implementation of Regulatory guidelines based on IAEA SRS-80 to reassess and enhance the safety of SNRC IRR-1, 5MW Pool Type MTR

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Following the accident in the Fukushima-Daiichi, Japan NPPs (March 2011), the previous ICRR in Rabat, Morocco (November 2011), recommended that the operating organizations will take a proactive approach to examining their design basis and safety analysis to evaluate what, if any, changes and improvements should be made to withstand multiple severe external events as appropriate for their site and facility characteristics. The paper presents an overview of the activities done on this topic by the ISRAEL Atomic Energy Commission (IAEC) Nuclear Licensing and Safety Office (NLSO), and the operator of Soreq-Nuclear Research Center (SNRC) IRR-1, 5MW, Pool-Type MTR. Although some of the activities started prior and aftermath of the accident, most of the regulatory instruction and operator's implementations were following the draft of IAEA SRS-80 technical guide, formally published on March 2014. The activities started with a specific regulatory decree (requirements), presented on March 2013 to the operator. The requirements were transformed to an action plan and included: a) reassessment of the calculated PIE's in the SAR, and including combined external hazards, specifically with fire; b) upgrading the reactor safety systems and safety related systems upon the safety review; c) re-evaluation of site seismic database and analysis; d) auditing the analyses on the robustness of preselected SSCs, mainly those related to the nominal and emergency power supply systems and cooling system; e) review of the completeness and updating the operational procedures; f) review of the emergency procedures and drills. The main part of the document describes the activities accomplished during a less than three years program, to be completed through 2015. A notable safety upgrade to be mentioned is the connection of two different ground accelerometers to the reactor protection system enabling automatically shutdown the reactor during an earthquake.

### Organization

Nuclear Licensing and Safety Office (NLSO)

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