

## **SUPPORT REQUIRED FOR SAFETY MANAGEMENT OF DECOMMISSIONING OF RESEARCH AND NUCLEAR REACTORS**

Egypt has two research reactors in operation, the first research reactor (ETRR-1) went critical in 1961. The second one (ETRR-2) has commissioned in 1992. Both reactors are owned and operated by Egyptian Atomic Energy Authority (EAEA) and controlled by Egyptian Nuclear and Radiological Regulatory Authority (ENRRA).

The first safety-related concrete has been poured in July 2022 for the nuclear island of unit 1 of El-Dabaa nuclear power plant in Egypt. It marks the official start of construction of the first of four Russian-supplied VVER-1200 reactors at the site on the country's Mediterranean coast.

Nuclear& Radiological Safety Research Center NRSRC, is one of EAEA centers, established by law no 211 for the year of 2017 and found on July 1st 2021 as a scientific research center with a future vision to serve as TSO with response to the RB and other relevant governmental organizations in Egypt and neighboring countries. This paper provides the regulatory body with the necessary areas for which TSO support/advice during different stages of decommissioning process. These supports/advices includes legal regulatory framework for decommissioning, decommissioning strategies, early planning for decommissioning, changes from operation phase to decommissioning, establish regulations and guides for decommissioning, immediate post shutdown activities, shutdown and preparation for dismantlement, preparation for dismantlement and acceptable end state.

On the basis of lessons learned from other experiences, this paper also, provides some insights into areas that a regulatory body needs to pay attention during decommissioning. Also, the regulatory aspects of the decommissioning process, such as the need for good interaction between the operating organization and the regulatory body and the preparation of adequate technical and regulatory rules for all decommissioning stages are discussed.

In Egypt with lacking decommissioning experience, NRSRC must also become acquainted with the subject, develop staff knowledge and a regulatory framework. Working from the beginning in a close relationship with the operator will help in anticipating regulatory changes that, in some cases, imply additional (and important) costs. This cooperation will add mutual confidence, and will also help to develop a safety culture in the decommissioned, which, in the long term, will also reduce costs.

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