

The Role of Research Reactor in National Human Capacity Building for Nuclear Power

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Fossil-based fuels have been powering our economies for years. They account for about 80% of the global energy mix. However, despite their dominance, fossil fuels are finite, and has negative impacts of the environment and climate-related changes. Saudi Arabia under Vision 2030 sees this issue and build their Vision to reduce the indecency on oil and achieve net zero emission by introducing renewable and alternative source of energy in their energy mix such as nuclear power. Saudi Arabia is following the IAEA milestones in the development of national infrastructure for nuclear power. Because nuclear technology requires knowledgeable and highly skilled personnel to ensure its safe deployment and sustainability, human resource development (HRD) is 1 of the 19 key infrastructure requirement that IAEA mentioned. It needs to be implemented during the design, construct and subsequent operationalization of nuclear power plants. Saudi Arabia is constructing the Low Power Research Reactor (LPRR) as a tool to transfer the nuclear technology and train future operators for nuclear power plants. This study will focus on the potential role of research reactors that can play in building the nuclear human capacity for nuclear energy generation. Findings show that research reactors can help nuclear human resource capacity, especially with regard to education and training that can be used to not only develop but also maintain the human resources necessary for supporting the safe and sustainable operation of nuclear power programs.

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