

Gearing up for supply of Fuel and Core Materials for Nuclear Power Program for the Next Two Decades

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ABSTRACT

With the Country's commitment to decarbonize and move to Net Zero carbon emission, nuclear power is a sustainable option using the proven technologies. With this view, Department of Atomic Energy (DAE) has envisaged several Projects to enhance the nuclear power capacity in the Country. Under this Mission, the fleet mode Reactors have already been launched by NPCIL. The technology of 700MWe Pressurized Heavy Water Reactors (PHWRs) has been demonstrated and two such Reactors became commercially operative. DAE is also considering setting-up of 220 MWe Bharat Small Reactor (BSR) under captive power mode for private industries. With the rapid growth of nuclear power, it is required to plan necessary measures required for operation of these Reactors. NFC has a Mandate to supply the nuclear fuel, reactor components and various other core sub-assemblies.

Rapid expansion is required at NFC to carry forward the DAE Program. Under this, long term planning is done for creation of new facilities and expansion of the existing facilities to meet the reactor requirements.

This paper gives summary of various expansions which are planned in this area. One of the key aspect is to utilize the modern industrial practices and implement automation for increasing the existing capacity. The paper gives an overview of various expansions planned in the next two decades.

Key words: Nuclear Fuel Fabrication, Reactor Core Components, PHWRs.