

SODIUM COOLED FAST REACTORS: TECHNOLOGICAL CHALLENGES AND OPPORTUNITIES

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Indian fast reactor programme is explained. Basic concept of breeding is briefed and challenges in the design and technology of sodium cooled fast reactors are addressed. The manufacturing and construction aspects of large dimensioned thin walled structures, long slender components, components demanding high precise machining and stringent fabrication tolerances are explained. Indian industries participations in the construction of 500 MWe Prototype Fast Breeder Reactor (PFBR) are brought out. The challenges in the construction and industrial partnership are highlighted. With the lessons learnt from design and construction of PFBR and future reactor programme planned by the department, the current capacity of Indian industries are assessed and further needs are identified. An important role of academic institutions and R&D establishments as partners in developing the technologies is core to the success of the mission.
