

Managing Spent Nuclear Fuel for Sudan Future Reactors

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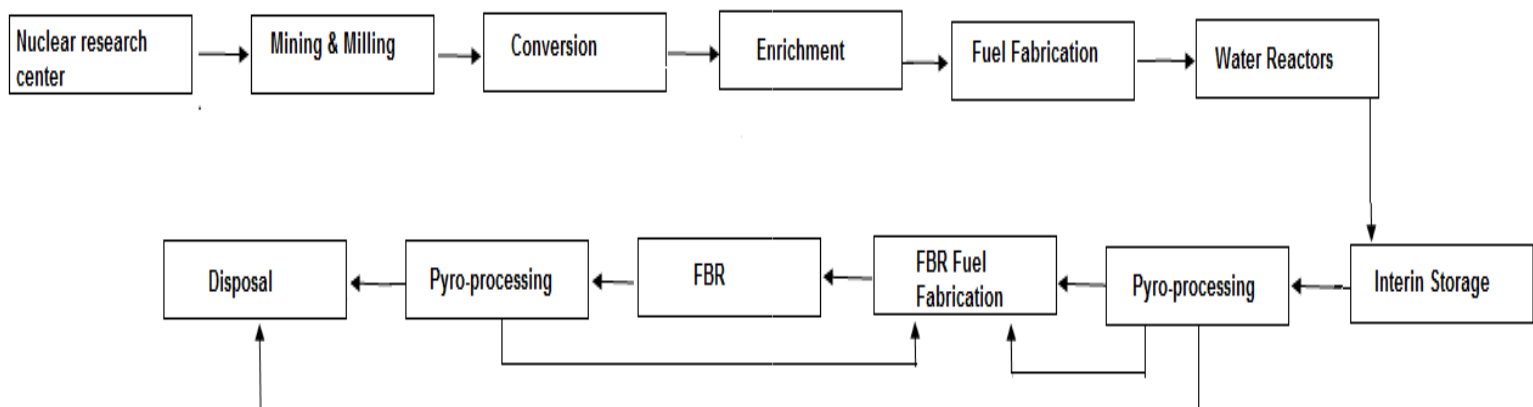
This study examines technical techniques, institutional factors and strategic options for managing spent nuclear fuel, and draws on policy implications and those associated with different social priorities and values in Sudan. With the increasing population and expansion of industrial sectors the Government of Sudan has taken a decision to adopt nuclear energy as part of its energy mix to help alleviate Sudan's energy challenges.

Sudan strategy for spent nuclear fuel

An introduction of a nuclear power programme in Sudan requires the establishment of infrastructure will depend on innovative reactor design and fuel cycles to be adopted in the future, the infrastructure include research centers to satisfy the need of evolutionary and innovative nuclear power technologies from exploration to storage reservoir.

Sudan multipurpose nuclear research center

The objectives of the nuclear fuel division in the center is to propose a plan to cover uranium and thorium exploration, mining and milling, conversion, isotope separation, nuclear fuel manufacture and spent fuel reprocessing in order to realize the objectives of safety.



Flow chart for future fuel cycle options in Sudan

Conclusion

The Sudan Advanced Fuel Cycle Initiative leads to conversion of materials in nuclear fuel used in a new generation of advanced reactors and separation of spent Nuclear fuel elements from water-cooled reactors fleet to Uranium, reusable fuel components and fission waste by Performing uranium and thorium extraction



Nuclear fuel & materials testing laboratory for fast reactors Sudan University of Science and Technology