

Technology and Policy Issues Relating to Future Developments in Research and Radioisotope Production Reactors

EPRG Working Paper 1129

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Not all civilian nuclear reactors are power stations. In fact many more countries operate small research reactors than use nuclear energy to produce electricity. Many of the policy issues affecting civil nuclear electricity generation, such as safety, public acceptance and nuclear non-proliferation also apply to research reactors. In this paper the authors introduce the technology issues relating to research reactors and explain the roles that they serve, including the production of radiopharmaceuticals for medical diagnosis and treatment.

In several respects research reactors present greater policy challenges than their more frequently studied cousins, nuclear power plants. The paper describes why issues of safety and nuclear security are perhaps more troubling for research reactors than for power stations. The authors consider the need for a new wave of research reactor construction. The paper concludes by considering UK national needs for a new research reactor and the particular role that the UK might play in designing and supplying a new more proliferation resistant technology for global markets. Arguably the UK nuclear industry is well placed to serve the technology needs of research reactors and the workload associated with such a step is regarded by the authors as not being beyond the capacity of UK firms.

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Publication
Financial Support

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December 2011
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