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Safety related design and economic aspects of HTGRs

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FOREWORD

The high temperature gas cooled reactor (HTGR) is a promising energy source to help meet the needs of society in the twenty-first century. This advanced nuclear power reactor has the capability to provide high temperature energy for the generation of electricity and for industrial process heat applications such as the production of hydrogen, with a high degree of safety and with capital installation and operation and maintenance costs which are economically competitive with other major energy sources such as coal. It was with the objective of reviewing the status of international development activities associated with the safety related design and economic aspects of the HTGR that the International Working Group on Gas Cooled Reactors recommended that the IAEA convene this Technical Committee Meeting (TCM) on Safety Related Design and Economic Aspects of HTGRs, which was held from 2-4 November 1998 in Beijing, People's Republic of China. It was hosted by the Institute of Nuclear Energy Technology of Tsinghua University, and included participants from national organizations and industries of ten countries. The TCM provided the forum for participants of Member States to discuss and share the status of their individual programmes associated with research, development and commercialization of the HTGR, and especially to identify pathways which can provide the opportunity for international cooperation in realizing the potential of the HTGR.

The status information presented in the papers is as of the time of drafting. Some of this information has been superceded by material in a recently completed publication on Current Status and Future Development of Modular High Temperature Gas Cooled Reactor Technology, IAEA-TECDOC-1198 (2000). Thus, the first three papers which were presented on status of the HTTR, PBMR and HTR-10 projects have not been included in this report.

The IAEA officer responsible for this publication was J. Kendall of the Division of Nuclear Power.

EDITORIAL NOTE

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