

FOREWORD

Design of liquid metal cooled fast reactors (LMFRs) is still in evolution, and only a small number of LMFRs are in operation around the world. Specialists operating these LMFRs have gained valuable experience from incidents, failures, and other events that took place in the reactors. These unusual occurrences, lessons learned and measures to prevent recurrences are often either not reported in literature, or reported only briefly and without sufficient detail. Hence there is a need for specialists designing and operating LMFRs to share their knowledge on unusual occurrences.

Considerable experimental and theoretical knowledge on various aspects of LMFR design construction, pre-operation testing and operation has been collected by several Member States with fast reactor programmes over the past decades.

Recently, more countries have launched their programmes on fast reactors in critical and subcritical (driven by a spallation neutron source) mode cooled by liquid metal.

The needs in generalisation, review and documentation of fundamental knowledge in liquid metal cooled reactor technology were a major consideration in the recommendation by the International Working Group on Fast Reactors (IWGFR) for the IAEA to convene this Technical Committee meeting on the subject of unusual occurrences during LMFR operation and their consequences for reactor systems.

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