

## FOREWORD

In 1985 the International Atomic Energy Agency published a report entitled "Status of Liquid Metal Cooled Fast Breeder Reactors" (Technical Reports Series No. 246). It was a general review of the status of fast reactor development at that time, covering some aspects of design and operation and reviewing experience from the earliest days. It summarized the programmes and plans in all countries which were pursuing the development of fast reactors.

During the period 1985–1998, there have been substantial advances in fast reactor technology development. Chief among these has been the demonstration of reliable operation by several prototypes and experimental reactors, the reliable operation of fuel at a high burnup (BN-600, BN-350, Phenix, PFR BOR-60, FFTF). Some additional countries, such as China, India and the Republic of Korea have launched new fast reactor programmes. At the IAEA meetings on liquid metal cooled fast reactor (LMFR) technology, it became evident that there have been significant technological advances as well as changes in the economic and regulatory environment since 1985. Therefore, the International Working Group on Fast Reactors (IWGFR) has recommended the preparation of a new status report on fast reactor technology.

The present status report intends to provide comprehensive and detailed information on LMFR technology. The focus is on practical issues that are useful to engineers, scientists, managers, university students and professors, on the following topics: experience in construction and operation, reactor physics and safety, core structural material and fuel technology, fast reactor engineering and activities in progress on LMFR plants.

This report has been prepared with contributions from China, France, Germany, India, Japan, the Russian Federation, the United Kingdom and the United States of America. The responsible IAEA officer was A. Rinejski of the Division of Nuclear Power.

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# CONTENTS

CHAPTER 1.	BACKGROUND AND OVERVIEW .....	1
1.1.	Progress within the period 1985–1998 .....	1
1.1.1.	Demonstration reactor operation .....	1
1.1.2.	Prototype reactor operation .....	1
1.1.3.	Technical achievements .....	2
1.1.4.	Design advances .....	3
1.2.	Contents of this report .....	4
CHAPTER 2.	OPERATION EXPERIENCE WITH PROTOTYPE AND DEMONSTRATION LMFRs .....	5
2.1.	BN-350 operating experience .....	5
2.1.1.	Design features .....	5
2.1.2.	Operating experience .....	7
2.1.3.	Safety enhancement and equipment life extension .....	21
2.1.4.	Review of experimental programme .....	22
2.2.	Phenix operating experience .....	23
2.2.1.	Design features .....	23
2.2.2.	Operating experience .....	25
2.2.3.	Statutory inspection - Spring 1989 .....	26
2.2.4.	Inspections and maintenance during the test period (1991–1993) .....	28
2.2.5.	Negative reactivity shutdown .....	29
2.2.6.	Plant statistics .....	29
2.2.7.	Radiological safety .....	30
2.3.	PFR operational experience .....	30
2.3.1.	Design features .....	30
2.3.2.	Review of operating history .....	34
2.3.3.	Advanced technology developments .....	52
2.3.4.	PFR safety and licensing .....	53
2.3.5.	PFR and the fuel cycle .....	55
2.3.6.	The future .....	58
2.3.7.	PFR in perspective .....	58
2.4.	Super Phenix 1 operating experience .....	59
2.4.1.	Design features .....	59
2.4.2.	Operating experience .....	62
2.4.3.	The present situation .....	71
2.5.	BN-600 operation experience .....	72
2.5.1.	Design features .....	72
2.5.2.	Operating experience .....	78
2.5.3.	Radiological safety .....	87
2.5.4.	Fire safety, sodium leaks .....	88
2.5.5.	BN-600 operating safety enhancement .....	89
2.5.6.	Experimental programmes .....	91
	Bibliography .....	92
CHAPTER 3.	EXPERIENCE IN CONSTRUCTION AND PRE-OPERATIONAL TESTING OF THE PROTOTYPE LMFRs .....	95
3.1.	Construction and pre-operational testing of the LMFR SNR-300 .....	95
3.1.1.	Introduction .....	95
3.1.2.	Description .....	95
3.1.3.	Construction and pre-operational testing .....	99
3.1.4.	Unexpected occurrences and their remedy .....	106
3.1.5.	Achievements .....	109
3.1.6.	Epilogue .....	115
3.2.	Construction and pre-operational testing of the prototype LMFBR “Monju” .....	117
3.2.1.	Overview of project .....	117
3.2.2.	Research and development .....	118

3.2.3.	Design and construction of monju .....	120
3.2.4.	Pre-operational tests.....	128
	References .....	133
CHAPTER 4.    LMFR PHYSICS .....		135
4.1.	Production of nuclear data for reactor neutronics calculations .....	137
4.1.1.	Measurement and the use of nuclear theory .....	137
4.1.2.	Analysis.....	138
4.1.3.	Compilation.....	138
4.1.4.	Evaluation .....	138
4.1.5.	Nuclear data uncertainty information .....	139
4.1.6.	Integral measurements .....	140
4.1.7.	Fission spectrum average.....	140
4.1.8.	Dosimetry cross-sections .....	140
4.1.9.	Nuclear data processing codes and group cross section data sets .....	141
4.1.10.	Validation.....	143
4.1.11.	Uncertainties in reactor parameters caused by nuclear data uncertainties .....	143
4.2.	Energy production, radiation emission, induced radioactivity and irradiation damage.....	144
4.2.1.	Heating.....	145
4.2.2.	The radioactivity of irradiated fuel .....	147
4.2.3.	Activation of structural and coolant materials .....	147
4.2.4.	Irradiation damage effects and dosimetry.....	148
4.3.	Neutronics calculation methods.....	149
4.3.1.	Forms of heterogeneity .....	150
4.3.2.	Methods for treating heterogeneity.....	151
4.3.3.	Control rod homogenisation .....	152
4.3.4.	Derivation of broad group cross-sections.....	152
4.3.5.	Whole reactor calculation methods .....	152
4.3.6.	The sub-group treatment of resonance shielding.....	153
4.3.7.	Perturbation theory methods.....	155
4.3.8.	Methods of adjustment of cross-sections to fit integral measurements.....	155
4.3.9.	Kinetics calculations .....	156
4.4.	Computer codes used in fast reactor neutronics .....	157
4.4.1.	Codes based on diffusion theory.....	157
4.4.2.	Transport theory and codes.....	158
4.4.3.	Codes based on the Monte Carlo method.....	159
4.4.4.	Application of code systems to fast reactor calculations.....	161
4.5.	Validation of methods and data .....	164
4.5.1.	Effective multiplication of a core at start-up .....	165
4.5.2.	Variation of reactivity with burn-up .....	166
4.5.3.	Incineration of fission products .....	166
4.5.4.	Power distributions .....	167
4.5.5.	Control rod reactivity worths .....	168
4.6.	Reactivity coefficients.....	169
4.6.1.	Doppler effects.....	170
4.6.2.	Sodium voiding and sodium density coefficients .....	173
4.7.	Shielding studies .....	174
	References .....	175
	Bibliography.....	180
CHAPTER 5.    LMFR SAFETY: NEW TRENDS AND FINDINGS.....		185
5.1.	New trends in safety principles and goals.....	185
5.1.1.	LMFRs and main recent nuclear safety trends .....	185
5.1.2.	Safety fundamentals .....	185
5.1.3.	Risk minimization and accident analysis approaches consequences for LMFRs .....	186
5.1.4.	Local subassembly faults .....	194
5.1.5.	Sodium fires .....	200
5.2.	Emergency heat removal by natural and forced convection.....	205
5.2.1.	Safety objectives of emergency heat removal systems (EHRS).....	205

5.2.2. Main design concepts.....	205
5.2.3. Status of international R&D activities and future needs.....	219
5.2.4. General conclusions.....	220
References.....	221
CHAPTER 6. SOME ASPECTS OF INSTRUMENTATION AND INSPECTION OF MAIN LMFR COMPONENTS.....	225
6.1. Steam generator: designs, instrumentation and protection.....	225
6.1.1. Configuration.....	225
6.1.2. Construction.....	232
6.1.3. Design details.....	235
6.1.4. Protection.....	237
6.1.5. Sodium–water reactions in steam generators.....	239
6.2. Reactor core with other components: acoustic instrumentation.....	249
6.2.1. Detection of boiling.....	249
6.2.2. Plant monitoring.....	252
6.3. Ultrasonic instrumentation.....	255
6.3.1. Ultrasonic imaging.....	256
6.3.2. Ultrasonic monitoring.....	256
6.3.3. Ultrasonic measurement of temperature.....	259
6.3.4. Ultrasonic systems.....	259
6.4. In-service inspection and repair.....	259
6.4.1. Background.....	262
6.4.2. Operational in-service inspection components.....	262
6.4.3. Research and development in France.....	264
References.....	270
CHAPTER 7. CORE STRUCTURAL MATERIAL AND FUEL TECHNOLOGY FOR HIGH BURN-UP.....	273
7.1. Introduction.....	273
7.2. Behaviour of materials for fuel pin cladding and subassembly duct (wrapper).....	273
7.2.1. Pin cladding materials.....	273
7.2.2. Wrapper-tube (duct) materials.....	279
7.3. Irradiation performance of oxide fuel elements.....	280
7.3.1. Fuel and fission product behaviour.....	283
7.3.2. Mechanical interaction between fuel and cladding (FCMI).....	286
7.3.3. Chemical interaction between fuel and cladding (FCCI).....	286
7.3.4. Behaviour under off-normal conditions.....	288
7.3.5. Failed pin behaviour.....	290
7.3.6. Modelling of oxide fuel performances.....	291
7.3.7. Achievable burn-up.....	291
7.4. Irradiation performance of metallic fuel elements.....	292
7.5. Irradiation performance of advanced fuel elements.....	294
7.5.1. Carbide fuel elements.....	295
7.5.2. Nitride fuel elements.....	299
7.5.3. Fuel for high plutonium burning.....	300
7.6. Irradiation performance of absorber elements.....	307
References.....	313
CHAPTER 8. LMFR ENGINEERING.....	317
8.1. Sodium pumps.....	317
8.1.1. Design basis.....	317
8.1.2. Sodium pump design features.....	319
8.1.3. Pump testing techniques.....	336
8.1.4. Pump operating experience.....	337
8.1.5. Cavitation in sodium pump impellers.....	340
8.1.6. Structural improvements in new sodium pump designs.....	343
8.2. Thermal-hydraulics of the primary circuit.....	351

8.2.1.	Introduction.....	351
8.2.2.	Objectives of the thermal-hydraulic studies .....	351
8.2.3.	Steady state studies of the hot pools of pool-type reactors.....	352
8.2.4.	Transient studies of hot pools .....	362
8.2.5.	Studies of the cold pool of a pool-type reactor.....	363
8.2.6.	Strongback .....	364
8.2.7.	Diagrid .....	364
8.2.8.	Gas entrainment at the free surface.....	365
8.2.9.	Cover gas thermal-hydraulics .....	366
8.2.10.	Thermal stripping studies.....	366
8.2.11.	Conclusions.....	369
8.3.	Decommissioning of the experimental liquid-metal fast reactor Rapsodie.....	370
8.3.1.	Introduction.....	370
8.3.2.	Main features of the installation.....	370
8.3.3.	Pre-decommissioning operations (1983–1985).....	372
8.3.4.	Decommissioning operations (1986–1994).....	373
8.3.5.	Conclusions.....	378
	References.....	381
CHAPTER 9. ACTIVITIES IN PROGRESS ON LMFR PLANTS.....		385
9.1.	European fast reactor .....	385
9.1.1.	Introduction.....	385
9.1.2.	Organizational structure of the European fast reactor cooperation .....	385
9.1.3.	EFR programme status.....	386
9.1.4.	Main design features .....	388
9.1.5.	R&D support of the design .....	406
9.1.6.	Concept validation phase achievements .....	408
9.1.7.	The success of the EFR project .....	415
9.2.	BN-1600M .....	415
9.2.1.	Stages of development and design concept evolution.....	415
9.2.2.	Basic parameters and design optimization .....	416
9.2.3.	Reactor unit design.....	420
9.2.4.	Reactor plant safety.....	429
9.3.	BN-800 reactor plant.....	431
9.3.1.	Design status .....	431
9.3.2.	Reactor design basis.....	431
9.3.3.	Reactor design concept.....	431
9.3.4.	Main design improvements and reactor plant features.....	433
9.4.	BN-600M advanced LMFR.....	445
9.4.1.	Design status .....	445
9.4.2.	Design basis .....	449
9.4.3.	Reactor design concept and main data.....	449
9.4.4.	Safety features.....	451
9.4.5.	Improvement of economic performance.....	452
9.5.	The demonstration fast breeder reactor .....	453
9.5.1.	Introduction.....	453
9.5.2.	DFBR plant design.....	453
9.5.3.	Technical and economic evaluation.....	463
9.5.4.	Prospects for FBR commercialization .....	468
9.5.5.	Conclusion .....	469
9.6.	Prototype fast breeder reactor-design description .....	469
9.6.1.	Introduction.....	469
9.6.2.	Reactor assembly .....	469
9.6.3.	Primary sodium system.....	475
9.6.4.	Secondary sodium systems .....	476
9.6.5.	Fuel handling.....	476
9.6.6.	Decay heat removal.....	476
9.6.7.	Materials.....	476
9.6.8.	Instrumentation and control .....	478
9.6.9.	Fire protection.....	478

9.6.10. Containment.....	479
9.6.11. Emergency control room .....	479
9.6.12. Balance of plant (BOP).....	479
9.6.13. Present status.....	479
9.7. ALMR technology development.....	479
9.7.1. Introduction.....	479
9.7.2. ALMR plant design.....	484
9.7.3. Integral fast reactor concept development.....	501
9.8. BMN-170 modular fast nuclear reactor.....	510
9.8.1. Design goals and status.....	510
9.8.2. Design basis .....	512
9.8.3. Reactor safety features .....	515
9.8.4. Radiological safety.....	517
9.8.5. Economics.....	517
9.9. Experimental fast reactor CEFR-25.....	518
9.9.1. Introduction.....	518
9.9.2. History and achievements .....	518
9.9.3. Trends of experimental reactors .....	522
9.9.4. CEFR-25 design.....	522
9.9.5. Site work .....	528
9.9.6. Nuclear licensing system in China.....	529
9.9.7. Safety features .....	529
Bibliography.....	531
 CHAPTER 10. SUMMARY AND FUTURE TRENDS.....	 533
10.1. Introduction.....	533
10.2. Technology trends.....	533
10.2.1. Fast reactors as burners of plutonium.....	533
10.2.2. Fast reactors as incinerators of nuclear waste.....	536
10.2.3. Design styles .....	538
10.2.4. Safety.....	539
10.3. The programme .....	540
10.4. Conclusion.....	541
 Contributors to drafting and review.....	 543