

CONTENTS

1.	INTRODUCTION	1
2.	FEATURES OF THE REACTOR	3
2.1.	Void coefficient of reactivity	3
2.2.	Design of control and safety rods	4
2.3.	Speed of insertion of the emergency protection rods	4
2.4.	Control of power	4
2.5.	Instrumentation indicating the reactivity margin	6
2.6.	Size of the reactor core	6
2.7.	Capability to alter safety systems, plant trips and alarms	6
2.8.	Subcooling of the inlet water	7
2.9.	Primary coolant system	7
2.10.	Containment	8
3.	THE ACCIDENT	10
4.	MORE RECENT ANALYSES OF THE FAULT SCENARIO	13
4.1.	The scenario	13
4.2.	Operating reactivity margin	14
5.	VIEWS OF INSAG	16
5.1.	Design	16
5.2.	Operator actions	17
5.3.	Safety framework	20
5.4.	Implications of ignoring deficiencies	20
5.5.	Importance of competent safety analysis	20
5.6.	Deficiencies in the regulatory regime	21
5.7.	General remarks on the lack of safety culture	21
5.8.	Summary assessment	22
6.	CONCLUSIONS ON FACTORS CONTRIBUTORY TO THE ACCIDENT	23
	APPENDIX: MEASURES TO IMPROVE THE SAFETY OF RBMK PLANTS	27

ANNEX I: REPORT BY A COMMISSION TO THE USSR STATE COMMITTEE FOR THE SUPERVISION OF SAFETY IN INDUSTRY AND NUCLEAR POWER	29
I-1. Introduction	29
I-2. Brief description of the design of Chernobyl Unit 4	32
I-3. Violations of safety standards and regulations in the design of Chernobyl Unit 4	34
I-4. Causes and circumstances of the accident	51
I-5. Conclusions	84
References to Annex I	89
Bibliography to Annex I	93
Литература к Приложению I	95
Библиография к Приложению I	99
 ANNEX II: REPORT BY A WORKING GROUP OF USSR EXPERTS	 101
II-1. Brief description and features of the RBMK-1000 reactor of Chernobyl Unit 4	103
II-2. Latest views on how the Chernobyl accident occurred and developed	107
II-3. Measures to improve the safety of plants with RBMK reactors	124
II-4. Conclusions	132
 LIST OF ACRONYMS AND SYMBOLS	 133
 MEMBERS OF THE INTERNATIONAL NUCLEAR SAFETY ADVISORY GROUP, WORKING GROUP MEMBERS AND ASSOCIATED EXPERTS	 135

