

CONTENTS

PREFACE	v	
<i>Adriano De Maio</i>		
PREFACE	vii	
<i>Hristo Smolenov</i>		
ACKNOWLEDGEMENTS	ix	
AUTHORS	xvii	
INTRODUCTION	xxxv	
<i>Alberto Brugnoli</i>		
 PART I		
GEOPOLITICAL OVERVIEW AND JURIDICAL ASPECTS	1	
 GEOPOLITICAL OVERVIEW: SAFETY AND SECURITY IN WESTERN AND EASTERN EUROPE WITH PARTICULAR REFERENCE TO NEW TRENDS. HIGHLIGHTING NEW THREATS AND AN INNOVATIVE APPROACH TO THE NECESSARY REGIONAL KNOWLEDGE MANAGEMENT SYSTEMS		3
<i>Sandro Calvani</i>		
Abstract	3	
1. New Threats	3	
2. The UN Approach Towards the Problem of CBRN Material.....	5	
3. UNICRI Activities	6	
4. UNICRI Innovative Approach Towards Regional Knowledge Management Systems.....	7	
A LEGAL FRAMEWORK ON DANGEROUS SUBSTANCES: AN INTERNATIONAL, EUROPEAN AND NATIONAL PERSPECTIVE	11	
<i>Barbara Pozzo</i>		
Abstract	11	
1. Introduction	11	
2. Labelling, Packaging, Waste.....	12	
3. Accident Prevention: The Seveso Directives.....	13	
3.1. The First Seveso Directive.....	13	

3.2. The Implementation of the First «Seveso» Directive by the Member States and the Control Measures taken by the Commission	18
3.3. The «Seveso» II Directive of 1996	21
3.4. Implementation of Directive 96/82 in the Member States and the Role of the Commission.....	28
3.5. The Toulouse Accident and the New Amendments made to the Seveso II Directive.....	31
3.6. Changes Introduced by Directive 2003/105	33
3.7. The Current Situation in an Enlarged Europe: Some Initial Considerations on the Implementation of Regulations Involving Major Accidents in the Ten New Member States.....	34
4. Transportation	36
5. Liability for Harm Caused by Dangerous Substances	37
6. Some Conclusions on the Effectiveness of Environmental Law	40

TERRITORIAL VULNERABILITY IN SAFETY AND SECURITY41

Fabio Mini

Abstract	41
1. ‘Krisis’ as Transition.....	41
2. The Nature and Shape of the Threat	43
3. A New Concept for Security	47
4. Multiple Threats and Single Minded Approach.....	48
5. The Operational Networking.....	49
6. Territory and Environment.....	50
7. ‘Krisis’ as Opportunity.....	52

PART II

RISK: PREVENTION, MANAGEMENT AND MODELS55

DECISION SUPPORT SYSTEM FOR CRISIS MANAGEMENT PLANNING57

Carmelo Di Mauro and J.P. Nordvik

Abstract	57
1. Introduction	57
2. Management of Risk Related to Dangerous Goods	58
3. Decision Support Systems.....	60
3.1. Decision Support Systems in the Field of Safety	62
3.1.1. <i>Role of the DSS During the Prevention Phase</i>	64
3.1.2. <i>Role of the DSS During the Emergency Phase</i>	64
3.2. Decision Support Systems in the Field of Security	65

4. Conclusions	68
References	69

THE PRIM (INTEGRATED REGIONAL PROGRAMME FOR RISK ASSESSMENT AND MANAGEMENT) BY LOMBARDY REGION.....71

Andrea Zaccone and Carmela Melzi

1. Creating an Integrated Security System Future Tasks	74
2. Viewing the Integrated Area Risk Plans: Three Levels of Planning	75
2.1. PRIM.....	75
2.2. Area Plan.....	76
2.3. Detailed Plan.....	77

THE PRIM PROGRAMME: A REGIONAL PLAN FOR INTEGRATED RISK ASSESSMENT AND MANAGEMENT.....79

Antonio Ballarin-Denti and Stefano Oliveri

Abstract	79
1. Introduction	79
1.1. Origin and Nature of PRIM	79
2. Basic Assumptions	80
3. Major Risks Considered.....	80
4. PRIM's Objectives	81
5. Methodology	81
5.1. From Risk Assessment to Risk Governance.....	81
5.2. Location of Critical Areas.....	82
5.3. Classical Versus Selected Risk Assessment Procedure.....	82
5.4. Definition of Variables	83
5.5 Data and Spatial Structures	84
5.6. Calculation Procedure for Single and Integrated Risks	85
6. Results	85
6.1. The Case of Industrial Risk	85
6.2. Assessing and Mapping the Integrated Risk: The Critical Areas	89
7. Conclusive Remarks.....	91
References	92

HOW CAN RISKS BE MANAGED IN LOGISTIC

NETWORKS.....93

Gonca Tuncel

Abstract	93
1. Introduction	93
2. Risk Management Process	94

3. A Framework of a Decision Support System for Risk Management in Logistics Networks	95
4. Conclusions	98
References	99

**LOGISTIC PLAN FOR TRANSPORTATION OF DANGEROUS
MATERIAL IN LOMBARDY REGION.....101**

Alfredo Romano and Giovanni Romano

Abstract	101
1. Introduction	101
2. Risk Management System Adopted for Evaluating Risks due to Transportation of Dangerous Substances on a Regional Scale.....102	
3. Development of a Model for Quantifying Risk due to Transportation of Dangerous Substances	105
4. The Software: Technical Solution Adopted.....107	
5. Conclusions and Suggestions.....110	
6. References	111

PART III

**CASE STUDY: DANGEROUS SUBSTANCES, MONITORING
METHODOLOGIES AND INTEGRATED RISK113**

**TRANSPORTATION OF PACKAGES WITH RADIOACTIVE
MATERIAL AND SPENT HIGH ACTIVITY RADIOACTIVITY
SOURCES IN ALBANIA (A CASE STUDY).....115**

Luan Qafmolla and Shyqyri Arapi

Abstract	115
1. Current Status of Radioactive Waste (RW) Worldwide Transportation	116
2. Main Scope of the International Legislation and Regulations for Safe Transport of RM and RW	117
3. Transport of Spent Radiation Source of Cobalt-therapy 60Co.....120	
4. Conclusions	121
References	121

**CRISIS MANAGEMENT DURING ACCIDENT WITH HIGH
RADIOACTIVE SOURCES IN ALBANIA.....123**

Luan Qafmolla and Shyqyri Arapi

Abstract	123
1. Introduction	123

2. The Structure for National Agencies' Response to Emergency Situation in Albania	124
3. Conclusions	127
4. References	127

**EMERGENCY RESPONSE IN CASE OF AN ACCIDENT DURING
TRANSPORT OF RADIOACTIVE MATERIALS129**

Borys Zlobenko

Abstract	129
1. Introduction	129
2. Event Classification	130
3. Emergency Preparedness	133
4. Organization of the Emergency Response Actions.....	135
References	137

**SOME ASPECTS RELATED TO CONTROL OF NUCLEAR
MATERIALS: INTERNAL AND TRANSFRONTIER
CASES IN ROMANIA139**

Bogdan Constantinescu

Abstract	139
1. Bucharest VVRS Reactor's Enriched Uranium Fuel Case	139
2. The Case of "Historical" Radioactive Sources	142
3. Safety in the Transport of Radioactive Material	143
4. Conclusions	145
References	146

**INTEGRATED RISK AREA PLANNING: THE CASE OF MILAN
METROPOLITAN AREA.....147**

Giuseppe Pastorelli

Abstract	147
1. Introduction	147
2. Aims and Operating Strategies of the PIAs	149
2.1. Aims	149
2.2. Operating Strategies.....	149
3. Milan Metropolitan Area Integrated Risk Area Plan	149
3.1. Territory Covered.....	149
3.2. Methodology Adopted	150
4. Data mining	150
4.1. Hazards	152
4.2. Vulnerability	152

4.3. Resilience/Coping Capacity.....	153
5. Risk Assessment Method	154
6. Risk Assessment Results.....	154
6.1. ‘First-Level’ Risk Assessment.....	154
6.2. ‘Second-Level’ Risk Assessment	159
7. Risk Mitigation Measures Proposed	160
7.1. ‘First-Level’ Risk Mitigation.....	160
7.2. ‘Second-Level’ Risk Mitigation	161
8. Conclusions	163
9. Abbreviations	163
CONCLUSIONS.....	165