

# Contents

<b>Preface</b> .....	iii
<b>Executive Summary</b> .....	1
<b>1. Introduction</b> .....	3
<b>1.1 Purpose</b> .....	3
<b>1.2 Background: Response to Radiological and Nuclear Emergencies</b> .....	3
<b>1.2.1 Radiological Emergency versus Nuclear Detonation</b> .....	4
<b>1.2.2 Dosimetry for Regulatory Compliance versus Emergency Response:             The Need for a New Paradigm</b> .....	4
<b>2. Operational Use of Previous NCRP Recommendations</b> .....	7
<b>2.1 Key Principles</b> .....	7
<b>2.2 Operational Use of NCRP Report No. 179 Recommendations:</b>	
<b>Responder Safety and Dosimetry</b> .....	8
<b>2.2.1 Radiological Responses</b> .....	8
<b>2.2.1.1 Dosimetry in the Early Phase of the Response</b> .....	8
<b>2.2.1.2 Dose Accrued During the Emergency</b> .....	9
<b>2.2.1.3 Communication</b> .....	9
<b>2.2.1.4 OSHA Regulations</b> .....	15
<b>2.2.1.5 Optimizing Radiation Measurement Equipment</b> .....	15
<b>2.2.2 Nuclear Detonation Responses</b> .....	16
<b>2.2.2.1 Communication</b> .....	18
<b>2.2.2.2 Protective Action Recommendations</b> .....	19
<b>2.2.3 Explosive Radiological Dispersal Device Responses</b> .....	20
<b>2.3 Emergency Worker Risk Comparison</b> .....	22
<b>3. Management of Dose Within the Incident Command System</b> .....	24
<b>3.1 Procedure for Implementing Dose Control and Monitoring in an Incident         Command System Organization</b> .....	24
<b>3.2 Resource Management, Incident Objectives, and Priorities</b> .....	24
<b>3.3 Dose Tracking and Recording Using the Incident Command System</b> .....	26
<b>3.4 Responder Accountability for Radiation Dose Management</b> .....	26
<b>3.5 Dose Monitoring Recordkeeping</b> .....	28
<b>4. Dose Reconstruction and Records Management</b> .....	30
<b>4.1 Using Responder Accountability for Dose Reconstruction</b> .....	30
<b>4.2 Using Incident Command System Forms to Capture Data Essential for Dose         Reconstruction</b> .....	31
<b>4.3 Records Management for Long-Term Follow-Up</b> .....	32
<b>5. Questions and Answers on Emergency Worker Dosimetry</b> .....	33

<b>Appendix A. Units Conversion Table</b> .....	38
<b>Appendix B. Dose Monitoring Considerations During Planning</b> .....	39
<b>Appendix C. Dosimetry Considerations for Urban Search and Rescue Service Dogs During Radiological Incidents</b> .....	44
<b>Appendix D. Use of Standard Incident Command System Forms to Capture Dosimetry During a Radiological/Nuclear Incident</b> .....	46
<b>Abbreviations and Acronyms</b> .....	58
<b>Glossary</b> .....	59
<b>References</b> .....	63
<b>Scientific Committee Members</b> .....	65
<b>The NCRP</b> .....	71
<b>NCRP Publications</b> .....	80