Executive Order 12898, Environmental Justice in Minority Populations 25
Executive Order 13045, Reduce Environmental Health and Safety Risks to Children 26
Food and Drug Administration Regulations on Prescription Drug Communication 28
National Environmental Policy Act 28
Natural Resource Damage Assessment 30
Occupational Safety and Health Act 30
Resource Conservation and Recovery Act 32
Risk Management Program Rule 32
Privacy Rule 32
Other Government Inducements 33
  International Standards 33
  North American Standards 34
  Grants 34
Summary 35
References 35
Additional Resources 35

4 CONSTRAINTS TO EFFECTIVE RISK COMMUNICATION 37
  Constraints on the Communicator 37
    Organizational Constraints 38
    Emotional Constraints 44
  Constraints from the Audience 45
    Hostility and Outrage 45
    Panic and Denial 48
    Apathy 48
    Mistrust of Risk Assessment 49
    Disagreements on the Acceptable Magnitude of Risk 50
    Lack of Faith in Science and Institutions 50
    Learning Difficulties 51
  Constraints for Both Communicator and Audience 51
    Stigma 52
    Stability of the Knowledge Base 52
Summary 53
References 53
Additional Resources 55

5 ETHICAL ISSUES 57
  Social Ethics 58
    The Sociopolitical Environment’s Influence 58
    The Use of the Risk Idiom 60
    Fairness of the Risk 61
    Consequences of Multiple Meanings 62
    The Issue of Stigma 63
  Organizational Ethics 63
    Legitimacy of Representation 64
    Designation of Primary Audience 65
## CONTENTS

### 8 ANALYZE YOUR AUDIENCE

- Begin with Purpose and Objectives  
- Choose a Level of Analysis  
- Determine Key Audience Characteristics  
- Determine How to Find Audience Analysis Information  
- Incorporate Audience Analysis Information into Risk Communication Efforts  
  - Checklist for Analyzing Your Audience  
- References  
- Additional Resources

### 9 DEVELOP YOUR MESSAGE

- Common Pitfalls  
- Information People Want  
- Mental Models  
- Message Mapping and Message Development Templates  
- Health Risk Communication  
- Crisis Communication  
- Checklist for Developing Messages  
- References  
- Additional Resource

### 10 DETERMINE THE APPROPRIATE METHODS

- Information Materials  
- Visual Representation of Risk  
- Face-to-Face Communication  
- Working with the News Media  
- Stakeholder Participation  
- Technology-Assisted Communication  
- Social Media  
- Checklist for Determining Appropriate Methods  
- Additional Resources

### 11 SET A SCHEDULE

- Legal Requirements  
- Organizational Requirements  
- The Scientific Process  
- Ongoing Activities  
- Audience Needs  
- Reference  
- Checklist for Setting Schedules

### 12 DEVELOP A COMMUNICATION PLAN

- What to Include in a Communication Plan  
- Developing Risk Communication Strategies  
  - Storyboarding as a Planning Tool  
- Communication Planning Using the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Approach

**Page Numbers:**
- Begin with Purpose and Objectives: 92
- Choose a Level of Analysis: 93
- Determine Key Audience Characteristics: 95
- Determine How to Find Audience Analysis Information: 95
- Incorporate Audience Analysis Information into Risk Communication Efforts: 101
- Checklist for Analyzing Your Audience: 103
- References: 103
- Additional Resources: 104
- Common Pitfalls: 106
- Information People Want: 107
- Mental Models: 108
- Message Mapping and Message Development Templates: 111
- Health Risk Communication: 111
- Crisis Communication: 114
- Checklist for Developing Messages: 115
- References: 115
- Additional Resource: 116
- Information Materials: 117
- Visual Representation of Risk: 118
- Face-to-Face Communication: 120
- Working with the News Media: 121
- Stakeholder Participation: 122
- Technology-Assisted Communication: 123
- Social Media: 125
- Checklist for Determining Appropriate Methods: 126
- Additional Resources: 127
- Legal Requirements: 129
- Organizational Requirements: 130
- The Scientific Process: 130
- Ongoing Activities: 131
- Audience Needs: 131
- Reference: 132
- Checklist for Setting Schedules: 133
- What to Include in a Communication Plan: 136
- Developing Risk Communication Strategies: 138
  - Storyboarding as a Planning Tool: 138
- Communication Planning Using the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Approach: 139
PART III PUTTING RISK COMMUNICATION INTO ACTION

13 INFORMATION MATERIALS

Constructing Information Materials
Information to Be Included
Organizing Material for Information Materials
Language for Information Materials
Narrative Style in Information Materials
Guidelines for Specific Types of Information Materials
Newsletters
Pamphlets, Booklets, and Fact Sheets
Posters, Advertisements, and Displays
Articles
Technical Reports
Checklist for Information Materials
References
Additional Resources

14 VISUAL REPRESENTATIONS OF RISKS

Design Visuals for Specific Audiences and Uses
Match the Visual Portrayal to the Information to be Conveyed
Pretest Graphics with Those Who Will Use Them
Using Visuals to Personalize Risk Information
Comparing Risks in Visual Formats
Static versus Interactive Visuals
Depicting Probability and Uncertainty
Presenting Probability
Presenting Uncertainty
Probability plus Uncertainty
Warning Labels
Consider Using Action Levels
Ethical Portrayal of Risk Information
Using Visual Information in Group Decision Making
Checklist for Visual Representation of Risk
References
Additional Resources

15 FACE-TO-FACE COMMUNICATION

Constructing Face-to-Face Messages
Choose the Appropriate Spokesperson
Give the Audience Something to Take Away
Reinforce Your Message with Visual Aids
16 WORKING WITH THE NEWS MEDIA

The Roles of the News Media in Risk Communication

News Media Contrasted with Other Stakeholders

Productive Interaction, Not Polarization

Understanding “Cultural” Differences

The News Media Are Event Focused

Certain Kinds of Risks Get More Coverage

Journalistic Independence and Deadlines Affect Content

The Need for Balance Invites Opposing Views

Information Is Condensed, Simplified, and Personalized

Guidelines for Interacting with the News Media

Develop Relationships with Local and Regional News Media Representatives

Know When to Approach Media Representatives or When They May Approach You

Prepare Messages and Materials Carefully

Know Where to Draw the Line

Put Your Message in Terms That the Reporter’s Audience Can Understand

Put the Risk in Perspective

Respect the Reporter’s Deadlines

Maintain Ethical Standards of Disclosure

Take Action When Inaccurate or Misleading Material Is Published or Aired

Evaluate News Media Coverage

Using Technology

Distribution Services

Video and Audio News Releases

Public Service Announcements

Telebriefings

Social Media

Checklist for Working with the News Media

References

Additional Resources
17 STAKEHOLDER PARTICIPATION 227
Requirements for Stakeholder Participation 228
  Organizational Requirements for Successful Stakeholder Participation 228
  Stakeholder Requirements for Successful Participation 229
Guidelines for Specific Types of Stakeholder Participation Activities 230
  The Formal Hearing 231
  Group Interactions 232
  Interactions Involving Risk Assessment 237
  Interactions Involving Decision Making 238
  Interactions Involving Risk Management 243
  Evaluating Stakeholder Participation Based on Your Situation 245
Checklist for Stakeholder Participation 246
References 248
Additional Resources 249

18 TECHNOLOGY-ASSISTED COMMUNICATION 251
Choosing Technology-Based Applications 252
  Workplace Risk Communication 253
    Computer-Based Training 253
    Informing Employees about Risks 255
  Web-Delivered and Stand-Alone Multimedia Programs 257
    Online Multimedia Tools 258
    Mobile Platforms 259
    Web and Satellite Broadcasts 260
  Traditional Electronic Forums 262
  Interactive Multimedia Programs in Public Places 263
  Technology in Care Communication 265
  Technology in Consensus Communication 269
    Websites 269
    Local Area Networks, Extranets, and Bulletin Boards 270
    Tracking and Analyzing Comments and Responses 271
    Facilitating Group Decision Making 272
  Technology in Crisis Communication 273
    Websites, Wired, and Wireless Technologies 273
    Emergency Planning and Training Tools 274
Checklist for Technology-Assisted Communication 278
References 278
Additional Resources 279

19 SOCIAL MEDIA 281
General Principles on Participating in Social Media to Communicate Risk 282
  Determining Audience for Social Media 283
  Organizational Barriers to Social Media Adoption 284
Sharing Content via Social Media 287
Engaging with Stakeholders 288
Monitoring Changes in Perception via Social Media 289
Guidelines for Specific Types of Social Media
   Social Networking Sites 290
   Microblogging 292
   Blogging and Podcasts 293
   Video-, Image-, and File-Sharing Sites 294
   Mapping 294
   Mobile Phones 295
   Evaluating Social Media Effectiveness 295
   Checklist for Social Media 296
   References 296
   Additional Resources 297

PART IV EVALUATING RISK COMMUNICATION EFFORTS

20 EVALUATION OF RISK COMMUNICATION EFFORTS 301
   Why Evaluate Risk Communication Efforts? 301
   The Meaning of Success 302
   Types of Evaluations 304
   Conducting the Evaluation 306
   Checklist for Evaluating Risk Communication Efforts 308
   References 309
   Additional Resources 310

PART V SPECIAL CASES IN RISK COMMUNICATION

21 EMERGENCY RISK COMMUNICATION 313
   Understanding Emergency Risk Communication 314
      Emotions and Public Actions 315
      Credibility and Trust 316
   Planning for the Unexpected 318
      Preparing Your Organization 318
      Teaming with Other Organizations 322
      Working with Communities in Advance 323
      Determining Appropriate Communication Methods 324
      Developing an Emergency Risk Communication Plan 328
   Communicating during an Emergency 333
      Emergency Operation Centers 336
      Working with the Media in an Emergency 337
      Hotlines 340
   Communicating after an Emergency 342
   Checklist for Emergency Risk Communication 344
   References 345
   Additional Resources 348

22 INTERNATIONAL RISK COMMUNICATION 349
   Recognize the Similarities 350
   Account for Cultural Differences 350