



*Advancing excellence
in public service . . .*

American Society for Public Administration

Series in Public Administration and Public Policy

CASE STUDIES IN DISASTER RESPONSE AND EMERGENCY MANAGEMENT



Nicolas A. Valcik and Paul E. Tracy

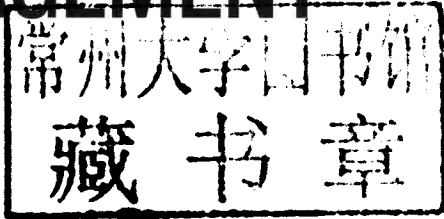


CRC Press
Taylor & Francis Group



American Society for Public Administration
Series in Public Administration and Public Policy

CASE STUDIES IN DISASTER RESPONSE AND EMERGENCY MANAGEMENT



Nicolas A. Valcik and Paul E. Tracy



CRC Press
Taylor & Francis Group
Boca Raton London New York

CRC Press is an imprint of the
Taylor & Francis Group, an **informa** business

CRC Press
Taylor & Francis Group
6000 Broken Sound Parkway NW, Suite 300
Boca Raton, FL 33487-2742

© 2013 by Taylor & Francis Group, LLC
CRC Press is an imprint of Taylor & Francis Group, an Informa business

No claim to original U.S. Government works

Printed in the United States of America on acid-free paper
Version Date: 20121115

International Standard Book Number: 978-1-4398-8316-7 (Hardback)

This book contains information obtained from authentic and highly regarded sources. Reasonable efforts have been made to publish reliable data and information, but the author and publisher cannot assume responsibility for the validity of all materials or the consequences of their use. The authors and publishers have attempted to trace the copyright holders of all material reproduced in this publication and apologize to copyright holders if permission to publish in this form has not been obtained. If any copyright material has not been acknowledged please write and let us know so we may rectify in any future reprint.

Except as permitted under U.S. Copyright Law, no part of this book may be reprinted, reproduced, transmitted, or utilized in any form by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying, microfilming, and recording, or in any information storage or retrieval system, without written permission from the publishers.

For permission to photocopy or use material electronically from this work, please access www.copyright.com (<http://www.copyright.com/>) or contact the Copyright Clearance Center, Inc. (CCC), 222 Rosewood Drive, Danvers, MA 01923, 978-750-8400. CCC is a not-for-profit organization that provides licenses and registration for a variety of users. For organizations that have been granted a photocopy license by the CCC, a separate system of payment has been arranged.

Trademark Notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

Visit the Taylor & Francis Web site at
<http://www.taylorandfrancis.com>

and the CRC Press Web site at
<http://www.crcpress.com>



American Society for Public Administration Book Series on Public Administration & Public Policy

David H. Rosenbloom, Ph.D.
Editor-in-Chief

Mission: Throughout its history, ASPA has sought to be true to its founding principles of promoting scholarship and professionalism within the public service. The ASPA Book Series on Public Administration and Public Policy publishes books that increase national and international interest for public administration and which discuss practical or cutting edge topics in engaging ways of interest to practitioners, policy makers, and those concerned with bringing scholarship to the practice of public administration.

RECENT PUBLICATIONS

Case Studies in Disaster Response and Emergency Management

Nicolas A. Valcik and Paul E. Tracy

Debating Public Administration:

Management Challenges, Choices, and Opportunities

by Robert F. Durant and Jennifer R.S. Durant

Effective Non-Profit Management:

Context, Concepts, and Competencies

by Shamima Ahmed

Environmental Decision-Making in Context: A Toolbox

by Chad J. McGuire

Government Performance and Results: An Evaluation of GPRA's First Decade

by Jerry Ellig, Maurice McTigue, and Henry Wray

Practical Human Resources for Public Managers:

A Case Study Approach

by Nicolas A. Valcik and Teodoro J. Benavides

The authors dedicate this book to first responders everywhere. These individuals risk their safety on a daily basis to come to the aid of victims from all kinds of danger and emergency situations. Their efforts are noble, dedicated, and unselfish, and we gratefully acknowledge their professionalism.

Foreword

Allen Barnes

City Manager of Gonzales, Texas

Early in my career in municipal government the importance of planning for the unexpected was hammered home one warm and bright February afternoon. The natural gas company that serviced our area was required by the Texas Railroad Commission to remove and replace all of the yellow poly pipeline they had laid in the 1970s. Yellow poly was everywhere. Instead of digging and removing the pipe they decided to bore underground in order to be able to pull the replacement pipe into place.

Sitting in my office thinking all was right with the world, I received the call. It was from Martha, who served as our utility clerk and telephone receptionist. “Allen, I just got a strange call from a lady. She said she turned on her gas range and there was water coming out.” I knew that Martha knew there was condensation in the gas lines from time to time so I asked, “Did you tell her it might be condensation in the lines?” To which I nearly choked on the response I was given, “Yes sir, but she has about 5 gallons of condensation on the floor and it’s still coming out.”

The gas company had bored into a water line. The water at 65 psi followed the path of least resistance and infiltrated their 15 psi intermediate gas line. Water quickly began to fill the gas line and enter their distribution system. From the time of the first report, it took the gas company more than 2 hours to find the source of the water. The following 2 weeks, which included the coldest cold snap in years, left a large majority of our small community with no heat. The emergency response on the part of the gas company started out fine but ended up disorganized. After a few days they began digging without regard to other underground utilities and caused problems for the city’s understaffed water department by ripping water lines out of the streets. After I pleaded with them to stop their random digging and ultimately threatened one of their vice presidents with, “If you rip out another one of my water lines you and I will have to fix it and I don’t know how,” they reassessed

their approach and took time to plan a strategy that was acceptable to the city. This calamity taught me the necessity of planning for the unexpected.

Having to learn this lesson on the fly showed me that I hadn't served my citizens very well. I learned I should have been ready. From that day forward I said I would never be caught unprepared.

Professors Nick Valcik and Paul Tracy have assembled the case studies in this book to help current and future governmental managers recognize the importance of getting ready for what the next telephone call might bring. The reader takes away an appreciation for the mindset of many of those who worked through each scenario in the book. The reader understands, in most cases, why they did what they did. Good decisions and bad decisions, you get a good understanding for the value to plan for the unexpected. The reader will also be able to assess the actions of governments and their officials after the fact. Written without judgment, this compilation allows readers to put themselves in the place of these officials. Valcik and Tracy show the student and the government official alike that critical proper planning can't stop unexpected events, but that you can be prepared.

You also get an appreciation for the fact that some events cascade beyond all planning. You will see that some events appear to present one set of issues but evolve into situations beyond expectations. The reader sees that all events have a life of their own and every decision made will impact the outcome positively or negatively.

In government service anything can and will happen. Valcik and Tracy have selected a wide variety of case studies to help the reader prepare for that phone call when you least expect it. Now if you will excuse me, I have to catch my phone, it's ringing!

Foreword

Ted Benavides

Executive Scholar in Residence at the University of Texas at Dallas

Seven years ago I had the great pleasure to join the staff of the University of Texas at Dallas (UTD) as part of the Public Affairs program. Shortly after my arrival I had the fortunate opportunity to meet two talented individuals, Nick and Paul, who had a wealth of information to share with me and our other colleagues about dealing with emergency management. With over 35 years of public service experience at the local, state, and federal levels, I have to be involved in a wide variety of emergency management situations. There is no way that a public servant has all the experience and knowledge to deal with all of the emergency management and disasters covered in this textbook. Although public servants are trained to know how to deal every day with public safety emergency situations, understanding the total view of emergency management and disasters is still a challenge to most, as seen during Hurricane Katrina. Using case study analysis helps to build the bridge between technical concepts and the reality of real-life situations.

In reading Nick and Paul's *Case Studies in Disaster Response and Emergency Management*, I have gained a whole new appreciation of the need for a more informed manager. Not only are they academics who know their subject matter from a theoretical point of view, but they are also very familiar with the daily requirements of emergency management professionals in dealing with disasters of all stripes. Nick and Paul have done a superb job in creating a textbook that is both informative and interactive. This book will fill any knowledge gap that you might have in this area of emergency management and disaster preparedness. However, as this book demonstrates, emergency management and disasters occur every day, and they bring new lessons to the profession, and as we are so aware of in today's public service environment staying current with the latest trends is essential.

The case studies and the format used in this textbook will teach us new lessons on how to face and deal with different situations. Nick and Paul outline strategies and ideas on how to cope with extremely difficult situations, communicate with the

public, and keep your organization focused on maintaining its edge during emergency situations. It also helps one prepare for any eventualities that may confront public servants when they attempt to protect their constituency from mankind and nature gone awry. The structured format used by my colleagues to analyze each unique situation is intended to ensure that every lesson and new wrinkle in the area of disaster preparedness can be identified and used in whatever emergency management challenges we might be grappling with on the job.

I would like Nick and Paul to be my copilots if I were facing an emergency situation or disaster. This book will be on my office desktop, and I will be referring to it often. I know this book will be dog-eared in very short order. So the next time you are faced with an emergency situation or disaster, I strongly recommend that you either have a hard copy or have this book downloaded to your electronic device of choice.

Preface

One of the profound implications of the terrorist attacks of 9/11 is that considerably greater public policy attention was needed to protect the homeland and provide a focused governmental response to emergency situations that arise due to natural disasters, terrorism, or even criminal activities. The most notable government reaction to 9/11 was the creation of the Department of Homeland Security through the Homeland Security Act of 2002 (Homeland Security, 2011). This new cabinet-level agency was created through the integration of all or part of 22 different federal departments and agencies (Homeland Security, 2011). A comprehensive homeland security and law enforcement agency is supposed to improve communication and intelligence gathering across the different functional areas. Since Hurricane Katrina, Homeland Security has also been in charge of spearheading responses to natural disasters. Whether and how well this new organization handles tasks as wide ranging as domestic law enforcement to the evacuations of citizens during natural disasters remains to be seen.

In most cases, public officials will never face drastic life-or-death situations that require critical decisions. However, when critical decision making is required, public officials need to be aware of situations that occurred previously so that a better and more informed decision-making process can take place. It may seem counter-intuitive to refer to historical situations when confronted with modern challenges, but an emergency can shut down electricity and public transportation, thus re-creating situations comparable to previous historical events. The power blackout that occurred in the Northeast in 2003 is an example of how a public official may have to respond to a crisis without modern amenities. Therefore, sometimes it is highly useful for administrators to review past situations and responses in order to formulate a successful plan for contemporary crises. There will always be new challenges, but many emergencies of the past have the potential to occur in the future. Public officials can evaluate the decisions made during these past emergencies and consider how they would have responded in a similar situation.

This case study book is designed to allow public officials to conduct this kind of evaluation on a selection of emergencies that actually occurred. Often there is no right or wrong answer or choice, just choices that will either resolve a problem

favorably or cause the situation to actually become worse for the organization. This case study book provides a set of generic questions at different points in the case study to allow students and practitioners to evaluate which decisions were successful and why. The cases are organized by the year that the incident occurred, but the text does not reveal the historical event or its resolution until the end. Some case studies are based more loosely upon a historical event to make the situation more relevant to modern times (e.g., animal magnetism case study) and to give the role assigned a broad decision-making capability for instructional purposes. We understand that more than one choice could improve the situation, but this case study book was developed to assist public officials to understand how to respond to events as well as what issues to think about or take into account.

It may be easy for the reader to criticize the decisions that were made by past public officials. However, the reader must consider the political pressures the administrator was under at the time of the crisis or the limited scope of his or her power in contending with such a situation. Unlike the historic public officials, the reader will not have to make decisions under pressure. The decision-making process for the case studies will give the reader an applied venue to test theoretical emergency management techniques that should work in real-world situations. This book is meant to act as a practical exercise in public administration and emergency management courses and to provide guidance for public officials during emergency management situations.

Acknowledgments

I first thank everyone who has helped me with this project. I thank Dr. Doug Watson, former program director of public affairs at the University of Texas at Dallas, for giving me an opportunity to teach emergency management in the Public Affairs program. In preparation for teaching emergency management, I was inspired to formulate a case study book that would provide students and administrators with real-life disaster situations that could be analyzed. I thank my coauthor, Paul Tracy, for his great work on this book. Paul's insight and revisions have evolved the book into its current form. I also thank my former students Krysten Carrera and Jessica Simpson, who helped review the manuscript, as well as my colleague, Ted Benavides, who provided insight that was very helpful in formulating the book. I thank Hung Vu for providing additional support on gathering research materials and Xu Zhao for providing the authors with information for our case studies that occurred in China. I acknowledge Andrea Stigdon for providing the book with a great cover design and performing the tedious duty of proofing and editing the book. Most of all, I thank my friends, family, and wife, Kristi, for their love and support of all of my endeavors.

Nicolas A. Valcik

I thank Nicolas Valcik, the senior author of the book and the prime mover behind the project right from the beginning. Nick has been tireless in his effort to do the background research on 58 disasters and emergency situations that comprise the case studies in this book.

Paul Tracy

About the Authors

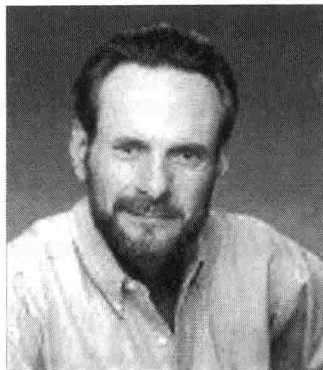
Nicolas A. Valcik currently works as an associate director of strategic planning and analysis for the University of Texas at Dallas and serves as a clinical assistant professor for public affairs for the University of Texas at Dallas. Valcik received a doctorate degree in public affairs from the University of Texas at Dallas in 2005, a master's degree in public affairs from the University of Texas at Dallas in 1996, a bachelor's degree in interdisciplinary studies from the University of Texas at Dallas in 1994, and an associate's degree in political science from Collin County Community College in 1994.



Prior to 1997 Valcik worked for a number of municipalities, across different departments, as well as for Nortel. In 2011 Valcik coauthored with Ted Benavides *Practical Human Resources Management for Public Managers: A Case Study Approach*, published by Taylor & Francis. Prior to 2011 Valcik authored *Regulating the Use of Biological Hazardous Materials in Universities: Complying with the New Federal Guidelines*, which was published by Mellen Press in 2006. Valcik has served as editor for three volumes of *New Directions for Institutional Research* (Volumes 135, 140, and 146), in addition to writing numerous articles and book chapters on institutional research topics and homeland security issues. Valcik specializes in several areas as both a researcher and a practitioner: higher education, information technology, human resources, homeland security, organizational behavior, and emergency management.

Paul E. Tracy holds a PhD in sociology/criminology from the Wharton School at the University of Pennsylvania. He is a criminologist who specializes in the study of crime and delinquency and policy developments in the criminal and juvenile justice systems. He holds a faculty appointment as professor of criminology and criminal justice in the Department of Criminal Justice and Criminology at the University

of Massachusetts at Lowell. He is also the director of graduate studies. His research interests focus on the measurement and analysis of juvenile delinquency careers, legal and policy issues in juvenile justice, prediction models of criminal careers, and drug prohibition policy. He is a recognized expert in the application of longitudinal research designs to the study of delinquent and criminal careers. His study of a large Philadelphia birth cohort of 27,160 people is the largest study of delinquency and crime ever conducted and is now in its 34th year. He also conducted the first large-scale delinquency study in Puerto Rico. Dr. Tracy generally teaches graduate-level courses on methodology and statistical analysis.



Contents

Foreword	xix
ALLEN BARNES	
Foreword	xxi
TED BENAVIDES	
Preface	xxiii
Acknowledgments	xxv
About the Authors	xxvii
1 Guidelines and General Information for Public Officials and Administrators	1
Key Issues to Consider in Emergency or Disaster Response Situations	1
Case Study Selection and the History of Disaster Response.....	1
Basic Framework and Resources Needed for Disaster Response.....	2
Basic Framework.....	3
Plan of Action.....	3
Communication Plan	5
Emergency Response Plan	6
Resources.....	6
Manpower	6
Food and Water	7
Medical Supplies and Resources	8
Law Enforcement	9
Specialized Equipment and Support.....	9
Electricity and Fuel.....	10
Transportation.....	11
Mortuary Services	11
Resources for Displaced Persons	12
Emergency Facilities	12
Financial Resources	13
Communications.....	14
Intangible Factors That Affect Disaster Response.....	14

Coordination with Other Entities.....	14
Authority.....	15
Scope of Operation.....	16
Political Disposition.....	16
Time.....	17
Threat Level/Threat Assessment.....	17

SECTION I NATURAL DISASTERS

2 Case Studies: Disasters from Natural Forces—Fires.....	21
Richmond Theater Fire, Virginia, 1811	21
Stage 1 of the Disaster	21
Stage 2 of the Disaster	22
Stage 3 of the Disaster	22
Stage 4 of the Disaster	23
Stage 5 of the Disaster	24
Stage 6 of the Disaster	24
Key Issues Raised from the Case Study.....	25
Items of Note.....	25
Great Chicago Fire, 1871	25
Stage 1 of the Disaster	25
Stage 2 of the Disaster	26
Stage 3 of the Disaster	27
Stage 4 of the Disaster	27
Stage 5 of the Disaster	28
Stage 6 of the Disaster	28
Stage 7 of the Disaster	29
Key Issues Raised from the Case Study.....	29
Items of Note.....	30
Peshtigo Fire, Wisconsin, 1871	30
Stage 1 of the Disaster	30
Stage 2 of the Disaster	31
Stage 3 of the Disaster	31
Stage 4 of the Disaster	32
Key Issues Raised from the Case Study.....	33
Items of Note.....	33
Big Blowup, Washington, Idaho, and Montana, 1910.....	33
Stage 1 of the Disaster	33
Stage 2 of the Disaster	34
Stage 3 of the Disaster	34
Key Issues Raised by the Case Study	35
Items of Note.....	35

Hartford Circus Fire, Connecticut, 1944.....	35
Stage 1 of the Disaster	35
Stage 2 of the Disaster	36
Stage 3 of the Disaster	36
Key Issues Raised from the Case Study.....	37
Items of Note.....	37
Nightclub Fire, Rhode Island, 2003.....	37
Stage 1 of the Disaster	37
Stage 2 of the Disaster	38
Key Issues Raised from the Case Study.....	38
Items of Note.....	39
Black Saturday Brushfires, Australia, 2009	39
Stage 1 of the Disaster	39
Stage 2 of the Disaster	40
Stage 3 of the Disaster	40
Key Issues Raised from the Case Study.....	41
Items of Note.....	41
3 Case Studies: Disasters from Natural Causes—Hurricanes.....	43
Newfoundland Hurricane, 1775	43
Stage 1 of the Disaster	43
Stage 2 of the Disaster	44
Stage 3 of the Disaster	45
Stage 4 of the Disaster	46
Key Issues Raised from the Case Study.....	47
Items of Note.....	48
Galveston Hurricane, Texas, 1900	48
Stage 1 of the Disaster	48
Stage 2 of the Disaster	49
Stage 3 of the Disaster	49
Stage 4 of the Disaster	50
Key Issues Raised from the Case Study.....	51
Items of Note.....	51
Hurricane Katrina, 2005	51
Stage 1 of the Disaster	51
Stage 2 of the Disaster	52
Stage 3 of the Disaster	52
Stage 4 of the Disaster	53
Stage 5 of the Disaster	54
Stage 6 of the Disaster	54
Key Issues Raised from the Case Study.....	55
Items of Note.....	56