Complete ERCES Handbook

with NICET In-Building Public Safety Communications (IB-PSC)
Study Guide

by Chief Alan Perdue (ret.), CFO, FM
and John S. Foley

with Mike Brownson
Managing Editor and Contributing Writer

SAFER BUILDING COALITION

FOREWORD TO THE SAFER BUILDINGS COALITION'S COMPLETE ERCES HANDBOOK *WITH NICET IB-PSC STUDY GUIDE*

By Michael Desrochers, Vermont State Fire Marshal, President, National Association of State Fire Marshals (NASFM)

In the heart of every first responder and life-safety professional rests an inner calling to protect life, property and the environment from an all-hazards risk. Sadly, answering this call can result in the ultimate sacrifice that can be asked of anyone, as embodied in scripture: "Greater love has no one than this: to lay down one's life for one's friends." (*Gospel of John, 15:13*). Public safety work involves skill, training, education, personal commitment, sacrifices, and a "Greater Love". Love of learning, love of service, and love of community.

As the Executive Director for the Vermont Department of Public Safety , Division of Fire Safety and the President of the National Association of State Fire Marshals (NASFM), we share common core values targeted to protect the public and fire service with coordinated efforts in building partnerships, enhancing data collection, code enforcement, fire service training, public education, permitting, hazardous materials response, fire investigation, and urban search and rescue just to name a few. Within the core of protecting our first responders and the public, we must ensure that reliable communications during emergencies are part of the overall emergency planning strategy so we can enhance our response capability. The SBC team who authored this book shares this passion and dedication alongside the NASFM. Indeed, to perform our common mission, it is *critical* that our radios work inside buildings. If we can't communicate during emergency incidents, we can't protect ourselves or our community members. This book addresses that need head-on.

The technology deployed to ensure that critical communications are available inside buildings may be new and unfamiliar to many. The term most commonly used today for this technology is **Emergency Responder Communications Enhancement Systems (ERCES).**

Note that the use of the word enhancement conveys the idea that when these systems are deployed within buildings, they do not work as stand-alone technology, but rather must be interwoven into the existing public safety communication networks that public safety agencies operate within their jurisdictions. The ERCES must perform its intended function but must also *enhance* and never *harm* the existing network.

This integration of ERCES and preexisting communication networks requires coordination, communication, codes and standards, best practices, and *agreement that everyone needs to be on the same page getting everyone on the same page*. And by everyone, I mean *all the stakeholders* with an interest in *in-building public safety communications*: first responders, building owners, code officials, public safety radio system operators, industry, elected officials, policy makers, codes and standards bodies, and more. This comprehensive handbook can help align and educate all of these stakeholders.

Life-safety professionals must explore and master many areas of study, some of which are technical and can involve time-consuming, sometimes dry, texts. These can be filled with jargon, arcane terms, and imprecise examples that can unintentionally make readers feel intimidated, or at the very least, unengaged. When an author is an advanced technical professional, it's easy for them to forget what it's like to be just starting out in the profession. The best authors find a way to present complicated concepts in accessible ways.

Chief Alan Perdue and his team at the Safer Buildings Coalition (SBC) had the daunting task of covering a set of extremely complex topics pertaining to math, science, technology, fire codes and standards, and many other highly detailed ERCES topics. This book could have easily turned into one of those dry, technical texts. But above all, Chief Perdue and his team at the Coalition are *teachers*. Their writing conveys the essential information to readers in a way that is both accurate and accessible to all professionals.

When Chief Perdue and the Coalition team first conceived of writing this book, they contacted NASFM for assistance to ensure that the work was articulated from a technical perspective while allowing users to learn about ERCES in a methodical manner. I, along with NASFM's full Board of Directors, expressed enthusiasm in support of this important safety awareness project.

The subtitle of this book is "with NICET IB-PSC Study Guide". The National Institute for Certification in Engineering Technologies (NICET) has for decades created and administered competency certification programs for fire alarm, fire sprinkler, and other engineering technologies. The Safer Buildings Coalition's sound decision to collaborate with NICET to build the In-Building Public Safety Communications (IB-PSC) certification program leverages NICET's widespread, pre-existing acceptance by code officials nationwide.

While there are many guideposts within this handbook to help prepare ERCES designers and technicians for NICET certification, the book does not "teach to the test." Rather, it builds real competency step by step through teaching core concepts and best practices, and then relates these to the codes and standards that govern ERCES deployments.

The book begins with a full chapter telling *why* this subject is so essential (THE PURPOSE), followed by another chapter outlining what is to be done about the problem (THE OBJECTIVE). Every chapter and discussion for the remainder of the book, details not only *what* we need to know but *why* we should care about it.

From there, the book takes the reader through a logical progression of knowledge and understanding that builds toward ERCES competence. Building competence is an obvious essential goal of this book, but there is another objective that may be just as important.

The model code groups have implemented code requirements (standards) pertaining to ERCES; however, when considering the longevity of many codes and standards, the standards for ERCES are fairly new and are rapidly evolving requiring constant refining, standardizing, and continuing updates. As with any emerging technology, the ERCES domain is currently experiencing growing pains resulting in the need to establish a framework that provides education, training, technical support and resources on best practices to assist in implementing an Emergency Responders Communications Enhancement Systems by promoting effective communication between all stakeholders.

The authors set out to clarify code language and to offer best practices and interpretations to make it easier for code officials and industry to talk about project details as they pertain to ERCES codes and standards. The use of illustrations, examples, and code excerpts, presented from the perspective of a third-party authority are particularly useful in achieving this goal. Further, the book offers the perspective of an objective, virtual coach to facilitate discussion and agreement between code officials and industry professionals.

Chief Alan Perdue and the SBC are bona fide authorities in this domain and Chief Perdue has directly participated in writing much of the code in use today. This means he was at the table when each code detail was debated and whatever the final version of the language was, he was witness to the *intent* of each topic.

Perdue and his collaborators are well-informed by subject matter experts from the SBC's work groups comprising over a hundred volunteers with regular communication and collaboration with code officials and radio system administrators from across the country.

Turn to the *About the Authors* section of this book to read Chief Perdue's impressive biography and credentials, along with the backgrounds and credentials of his collaborators for this book (because no one person could have possibly covered every topic this book needed to address by themselves).

As the current President of NASFM, I am proud of our role in helping to bring this important handbook to all ERCES stakeholders, and I highly recommend this handbook as an essential guide for achieving in-building public safety communications competency. I encourage public safety and industry professionals alike to rely upon it as a trusted source of objective ERCES facts, and to incorporate it into their training programs.

Sincerely,
Michael Desrochers
Vermont State Fire Marshal, President - National Association of
State Fire Marshals (NASFM)

About Michael Desrochers

Michael Desrochers, Executive Director of Vermont Division of Fire Safety (DFS), was elected by his peers to lead as President of the National Association of State Fire Marshals (NASFM) in 2022. He is a 32-year veteran of the DFS.

Director Desrochers has served since 2012 as the Vermont State Fire Marshal and oversees fire service training, code enforcement, trade licensing and certification, USAR, Hazardous Material Response, Fire Investigation and represents Vermont on state boards, federal and national boards and committees. Previously, he served as Deputy Director of Vermont DFS, Regional Manager of DFS, Fire Prevention Officer, Certified Hazardous Materials Response Technician Team Member, and Certified Gas Technician.

NASFM membership comprises the most senior fire officials in the United States with the mission to protect human life, property, and the environment from fire and related hazards.

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