Book Review

Emergency Preparedness Planning. A Primer for Chemists, by Timothy L. Pasquarelli And Frankie K. Wood-Black (Oxford University Press with Copyright by ACS,1999), 126 pp., ISBN 0841235791; $29.95 (hardcover)

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A chemist's domain at one time was confined to the laboratory. Specifically, what occurred inside a reaction vessel, and the theoretical basis for that reaction, were the life's blood of the profession. Laboratory safety and spill clean up were important topics, but treated as a routine part of laboratory management. They, too, were confined to the laboratory and generally were on a small scale (grams to a few kilo- grams at most). Training for these activities was not a perennial requirement, but a "once you are taught, now you know", belief.

In the past 15-20 years, the laboratory walls have been removed as the traditional boundary, and now the new reaction vessel has moved into the public's environment. The word, *chemical*, now raises a specter whenever it is used in a public statement. The public wants to know:

"Why is this chemical here?"

"Where do I go if this chemical spills?"

"Who knows how to protect us from the dangers of this chemical?"

"How will I know if there is a spill or I am exposed to this chemical"

"Are we prepared to deal with the release of this chemical, on the scale that it is used in our community?".

The public has the right and the need to know the answers to these questions and many more. It is the responsibility of the facility that has the chemical to ensure that the facility design is suitable for the presence of the chemical. It must also ensure that the treatment, use, and disposal of the chemical addresses all the relevant issues associated with it.

Emergency preparedness planning encompasses these issues and many others.

These questions regarding facility design, reactivity and health protection as they relate to chemicals are very frequently directed to chemists, because who knows more about chemicals than chemists? The mnemonic that fresh- man chemistry students are presented with, "Do as you oughter, add acid to water", doesn't give the educated individual a clue to how to proceed if 55 gallons of concentrated sulfuric acid just spilled. This is not to say that hazards are only of a chemical nature. But the promise of the title would lead one to believe that in this book pragmatic items such as these might be covered.

Emergency Preparedness Planning: A Primer for Chemists attempts to integrate the managerial aspect of emergency preparedness with hazard planning. In this respect the authors have been somewhat successful in identifying the Big Picture.

"The purpose of this book is to provide an introduction and a resource tool for those persons who are not emergency management professionals, but who are interested in the emergency preparedness and management process, or who may have just been given additional responsibilities that include emergency response plans."

The authors use two very disparate examples throughout the book to try to amplify the concepts of emergency preparedness and planning. A kitchen fire and a model town are used for the purposes of demonstrating the concepts needed in response planning. The model town has a refinery, a small college, and the county seat government building. They refer to these examples throughout the chapters. However, the generic correlations provided by the authors leave the reader with little substantive material to relate the concepts to the application.

Chapter 3, "Risk Assessment", provides a very good basis for how to develop an idea of what the risks are in the facility. The risk matrix diagram shows the type of logic to use for assessment of each risk. The chapter ends rather abruptly however with a list of bulleted items labeled 'Practical Application'. In this respect, the chapter falls short of its promise in the title of being 'A Primer'. Many of the concepts of emergency preparedness are abstract for the beginner. This would have been the perfect spot for a bridge to the knowledge base of the chemist. For example, the following topics should have been discussed, but were not:

Establishment of chemical storage locations within the laboratory/refinery and how they are situated to provide adequate access and egress.

The smallest quantities of chemicals that should be stored in the lab/processing areas to minimize the potential of small spills becoming reaction hazards.

The dual locations of MSDS's for the chemicals on hand, so that response personnel know where to find them for the experiment/production flow at that time.

How to locate the eyewash/shower stations in the laboratory/refinery, and how often they are verified as operable.

The required safety equipment - does it change with each experiment/ production line?

These specific ideas should then have been developed in the subsequent chapters, and provide the clear “how to” function as it relates to the rest of the community. The material covered in subsequent chapters follows the glib pattern of Chapter 3.

The appendices provide a general format for an Integrated Contingency Plan and a Basic Response Plan Out- line. Attachment 2 is a tabular compendium of specific references to the Code of Federal Regulations chapters and sections. Although somewhat useful, these referenced sections can change with time, and with changes in the law.

There was much reference throughout the book to legal requirements, management buy-in, and financial investments in such plans. These do not ensure a successful plan. The counterpoint is that a knowledge of chemicals alone is insufficient to ensure, should an accident or emergency arise, that the proper actions will be taken to preserve life, property and the environment. Together, these concepts are managerial and logistical problems that, until recently, have fallen outside the pedagogical and theoretical realm of the chemist.

Emergency preparedness planning needs to focus on how to make an organization ready to ward off and. deal with emergencies. A primer should provide coordination of these two functions at the ground level in exemplary fashion. In that respect this book misses its mark.