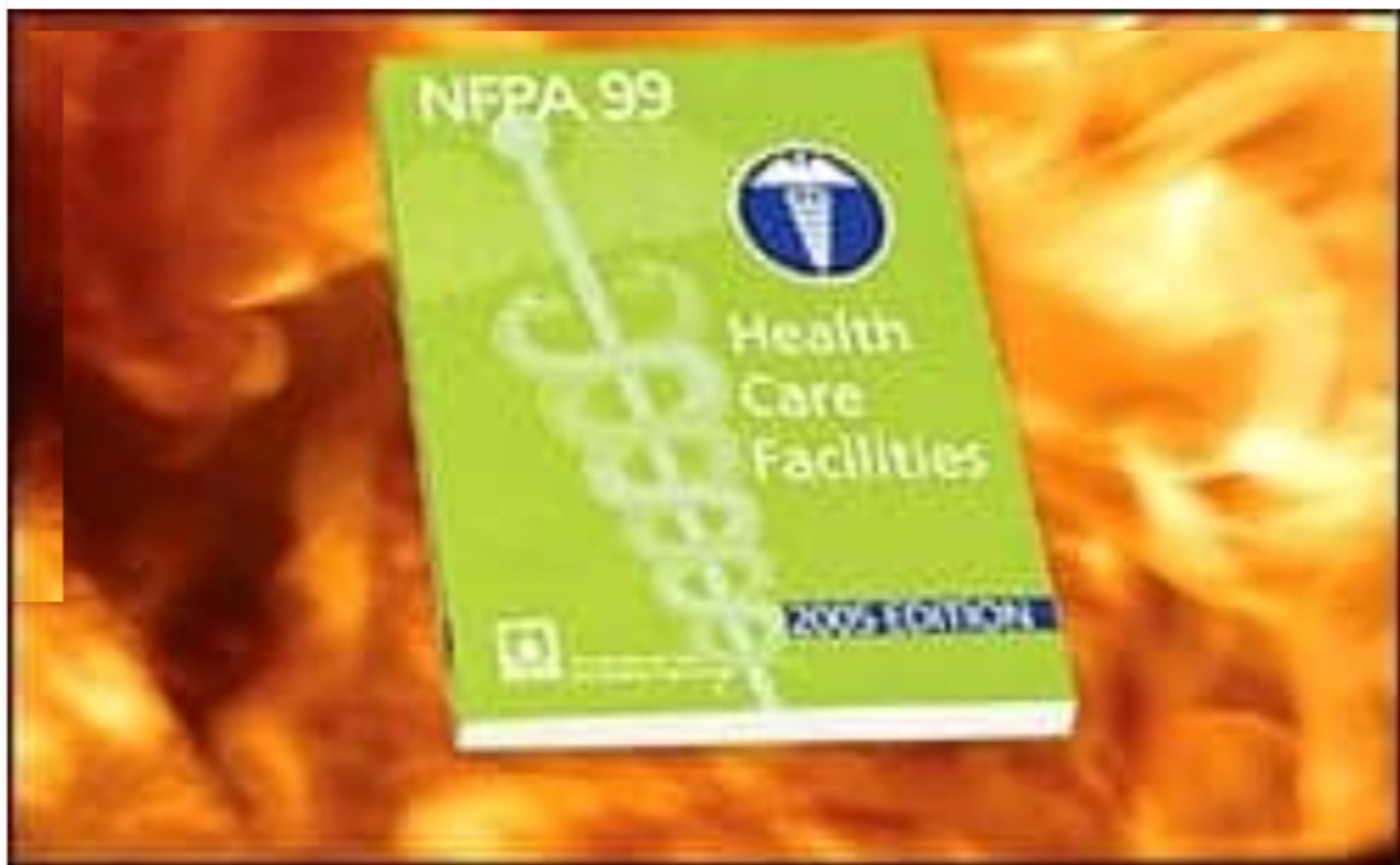


Rewriting NFPA 99

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For more than two decades, the National Fire Protection Agency's (NFPA) Standard for Health Care Facilities—NFPA 99—has defined the guidelines for repair, maintenance, and safety compliance inspections of electrical and electronic appliances that generate high-frequency currents. Biomedics turn to the document on a regular basis, viewing it as an invaluable guide to minimizing the hazards of fire, explosion, and electricity in health care facilities. Some states have even adopted the document's recommended standards as regulations in the field.

As health care technology has evolved over the years, however, a number of questions have arisen about what specifics should be part of NFPA 99. Moreover, are the standards still relevant to the way health care is performed today, and do the criteria meant to reduce risk still accomplish that goal?

"Medical equipment is built so much better now, and there has been a shift from electromechanical to purely electronic equipment," says Thomas Schipper, CCE, FASHE, national senior consultant, Environment of Care for Kaiser Permanente, Pasadena, Calif. "Technology has changed, manufacturing of this type of equipment has changed, and that has caused certain standards to become obsolete."

Since NFPA documents go through a revision cycle once every 3 years, there should have been ample opportunity to update these recommended standards on a regular basis over time.

"The focus of NFPA 99's revisions has always been on polishing the language, when what was really needed was a complete overhaul, because the document has simply become old," Schipper says. As a past president of the American Society for Healthcare Engineering (ASHE), Schipper today sits on the technical correlating committee (TCC), the parent committee for NFPA 99.

This year, NFPA 99 is finally getting that overhaul. The normal 3-year revision cycle has been extended to allow NFPA's TCC the opportunity to put together a plan for revising the standard. ASHE has also pulled together a number of work groups, each assigned to the document's various subject matters or chapters. The groups will review the existing language to see if it is still timely and relevant, and if it improves or

makes a difference in patient care. If the answer is yes, the next task is to examine whether it goes far enough, and then submit a series of proposals for changing the document.

“We want to look at whether we are spending time meeting regulations that don’t make a difference, in which case, why have the regulation?” says Dale Woodin, SASHE, CHFM, executive director of ASHE. “Does the document simply need some refinements, does it need major subtractions, or is the document still good?”

The changes to NFPA 99 will come via a consensus process in which anyone can submit a public proposal for change. The various committees will then meet to evaluate and make recommendations on the proposed changes. This will be followed by a period when the public will have the opportunity to respond to the actions proposed by the various technical committees. The revisions will be presented to the NFPA membership in June 2009, with the next version of the document to have a 2010 year stamp on it.

Perhaps no one is more excited about this revision process than Douglas S. Erickson, FASHE, CHFM, HFDP, director, research and development for ASHE and chairman of the TCC. Erickson has been laying the groundwork to modernize NFPA 99 for the past 6 years.

“NFPA 99 originated as a number of individual pamphlets cobbled together to form a single comprehensive document in the early 1980s, and those documents were already 20 years old at the time we started using them,” Erickson explains. “Today, the document is similar to a hospital that adds on year after year, until nothing works well because the facility is such a hodgepodge of buildings that it has become a maze. People can no longer get from place to place.

“Over the years, the committee members have done a good job of putting bandages on and replacing a limb here and there,” he continues. “But it’s time to put this Frankenstein to bed and build a new one. The information in NFPA 99 is 30 to 40 years old. We have modernized ourselves in health care and we have a document that is no longer supporting us.”

Erickson is hardly alone in his firm belief that the time has come to reassess NFPA 99—and that ASHE should shepherd such change. Woodin, too, feels that ASHE has the opportunity to be a leader in rebuilding this document and improving it to recognize and encourage cost-effective, appropriate patient care.

As he stated in his concept proposal regarding changes to NFPA 99, “The expert knowledge, experience, and opinions of ASHE members and its strategic partners may

be harnessed to produce a document that effectively addresses and manages risks while bringing efficiencies to the regulatory compliance burden faced by health care providers.”

Furthermore, Woodin points out that “ASHE has the opportunity to recommend the removal of antiquated and unnecessary compliance language, re-engineer the minimum standards up against a growing list of care settings, assist with structuring the document to benefit its application by our members and enforcing authorities, set standards to effectively create and control the health care environment, establish chapters for both existing and newly installed systems, provide scalable standards ... and address the emerging trends of health care” in an updated and revised version of NFPA 99.

Areas of Interest Within NFPA 99

The extended revision cycle should be viewed by biomedics as a long-awaited opportunity, because the issues in NFPA 99 that they have long been interested in changing, such as basic electrical leakage inspection for all incoming equipment, can be addressed in a way that may change how they perform their work.

Erickson takes pains to point out that the revisions are not meant to write standards already covered by other NFPA documents, but to enhance the requirements that have specific health care applications.

In addition to modifications of current topics, a few new topics may be greatly expanded, such as the issue of security. Erickson wants to see the revised NFPA 99 address an expansion of the role of emergency management to include such topics as health care security, yet not duplicate existing standards and guidelines in homeland security programs, bioterrorism surge capacity, and Joint Commission standards.

“Emergency management is an important aspect in many types of health care delivery organizations, and its integration with fire, infrastructure, ventilation, and the functional program is extremely important,” Erickson says. “We need to look at whether there are specific needs of an emergency department to handle the mass casualty scenario. How will an organization handle a patient surge, incident command, and reinstatement of patient services? In light of the recent events due to Hurricane Katrina, we will have a tremendous opportunity to take the lessons learned and evaluate them for the new 99.”

Likewise, the fact that health care facilities are using more and more wireless technologies and electronic medical records has not yet been adequately addressed in the document.

“Wireless technology, fiber-optic cabling, paperless systems, digital imaging, and the use of telemedicine are commonplace in today’s health care facility, and this document needs to support and protect this technology,” Erickson says. “Each of these technologies has infrastructure requirements and inherent risks, yet nowhere in the current document are these systems covered.”

In fact, Erickson thinks that it is very important to be looking at specialty areas within health care facilities—such as MRI and PET—where mechanical systems have an impact on patients, and how the ventilation system needs to coordinate with fire protection and alarm systems.

Biomed Input Needed

No matter what the proposed changes, the input of biomed working in the field today is crucial to the next iteration of NFPA 99. “Our goal is to bring professionals together to advise NFPA. Normally we only suggest relatively minor changes, but we’re looking to propose whole segments of text, and for that, the input of biomed is vital,” Woodin says. “I would encourage them to be familiar with the existing language and then look at what we’re proposing. We want them to ask, ‘Did we go far enough? Will it increase risk? Is this actually better?’

“We want to see whether we can reduce the regulatory burden without impacting patient safety,” he continues. “Doing less per piece of equipment has the potential to allow biomed to be more efficient. So we want people to be vocal about this. The more people involved, the better.”

There are a number of biomed working already who have come up with some proposed text that will be open to review by the general population in the next few weeks. However, Woodin stresses that it is important for more biomed to get involved in this review process.

“We want to talk to people about each discipline,” Woodin says. “It’s important to get the input of people who are dealing with power, heating, ventilation, and medical equipment on a daily basis.”

Biomed who are interested can put in proposed changes until the end of November by downloading an electronic paper proposal form from the NFPA (www.nfpa.org).

The bottom line is that if someone feels strongly that a particular aspect should be addressed, he or she can—and should—take this opportunity to submit a comment.

Erickson notes that now is the time to make the tough decision, vacate the existing

standard, and build a new one from scratch. “My hope is that we can all pull together, and through a coordinated effort of conceptual planning and schematic documents, finally have a set of draft chapters that is an integrated document, scalable for a variety of care settings, while being robust enough to address the existing and the emerging risk management needs of each health care delivery methodology ready to take us into the year 2025,” he says. “I am not without my own thoughts as to the direction of the new document, but I am not steadfast on them, either. For the past 3 years I have been preparing for this moment, and I am positively ecstatic that it is here. This is a once-in-a-lifetime opportunity for all of us, and I know we can pull it off.”

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The Biomed Arena

With the National Fire Protection Agency’s (NFPA) Standard for Health Care Facilities –NFPA 99—undergoing a thorough overhaul, clinical engineers and biomedical equipment technicians have the opportunity to submit suggestions for changes until the end of November. Those on the technical correlating committee (TCC), the parent committee for NFPA 99, value the experience and knowledge of those in the field and encourage submissions on various topics.

“Leakage inspection in particular is a lightning rod for biomedics because it tends to be very labor-intensive and time-consuming,” says Thomas Schipper, CCE, FASHE, national senior consultant, Environment of Care for Kaiser Permanente, Pasadena, Calif, and member of the TCC. “Right now, most hospitals test their equipment every 6 months, or more often for acute care equipment. That requires biomedics to take testers onto the floors or bring the equipment down. If we are able to re-evaluate the benefit of leakage testing and potentially reduce the requirements for compliance with that, biomedics could perform other potentially more valuable tasks for their organizations. That could literally change their jobs.”

Biomedics have also expressed concern about waste gas anesthesia, a topic that NFPA 99 currently does not address completely.

“There is discussion in various chapters, but there is not one section dedicated to ventilation,” says Dale Woodin, SASHE, CHFM, executive director of the American Society for Healthcare Engineering (ASHE). “So there is a new technical committee on mechanical systems meeting on whether NFPA 99 should reference other documents on ventilation or address it more specifically. Should this document still be one-stop shopping, or should it point to other documents that are authoritative on other areas regarding ventilation? Whether it’s an entry point into more documents has been the touchstone of debate.”

Flammable anesthetic agents are another topic that will be addressed by the revision work groups, because the precautions dictated in NFPA 99 are no longer relevant.

“The elimination of flammable anesthetic agents in surgery has caused the lack of a need for reducing ‘arcs and sparks’ in the surgical environment,” Schipper says. “There is no risk of setting off flammable anesthetic agents, because those agents are no longer in use, so there is some question about whether there is a continued need for these precautions, even as an annex.”

“The precautions in regard to flammable anesthesia stuck with us even when no health care facility in the United States was using cyclopropane or ether anymore,” says Douglas S. Erickson, FASHE, CHFM, HFDP, director, research and development for ASHE and chairman of the TCC. “The logic was that we’d leave it in the document in case internationally it could be used as a reference. But at some point we have to think, Does this document really need to include antiquated information?”

Noting another area to address Erickson says, “With the proliferation of more technology and patients wanting to connect to the Internet while receiving treatment in the hospital, there may be a need for additional standards to manage this growing trend.”

“Whenever there’s a body of knowledge that we have worked with for a number of years, it’s always a good idea to perform a complete review, because the world does change,” Schipper says. “Some biomed are interested in bringing isolated power back as a requirement, and this is the forum in which something like that should be discussed.”

“The reality is that these changes can mean a shift in a biomed’s job responsibilities, as they may be asked to do less of a certain thing and more of something else,” Woodin says. “This gives us a particularly good opportunity to update the material to today’s perceptions of the world.”