

Fire alarms and sprinklers: Verifying technical competency

Are you fully satisfied the fire sprinkler or fire alarm test reports you receive are accurate? Are you confident your fire alarm plan reviewers understand the impact adding audible/visual fire alarm notification appliance has on line voltage measurements? Can your fire sprinkler plan reviewers explain how design densities change when commodity classifications vary?



Rob Neale

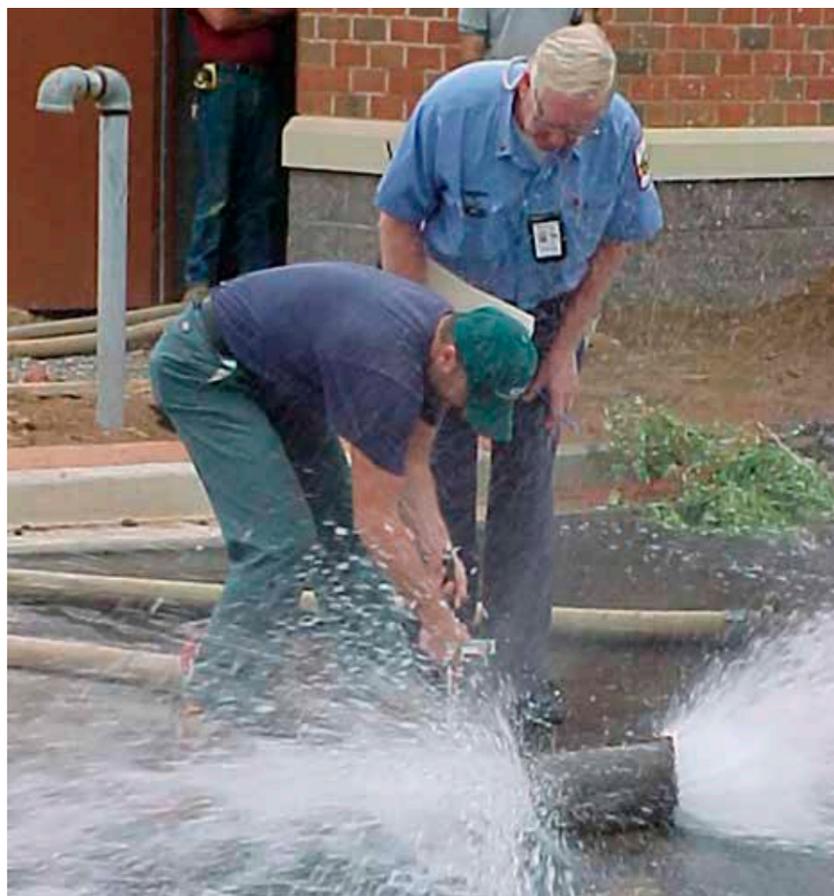
If you answered “no” to any of these questions, how confident are you that the sophisticated fire protection systems and equipment in your jurisdiction will operate as intended to protect lives and property?

Building owners go to great expense to install fire protection systems. The costs of design, installation, inspection, testing and maintenance add capital and operating costs to the life cycle of a building. Insurance underwriters include

fire protection systems in their risk analysis when setting premiums.

Regardless of the financial impact, the public and fire fighters rely on these systems to provide early warning and fire control to give them time and conditions to survive.

▼ **A complete fire protection system test includes water flow. The certification process assures the testing team knows how to assess the results.**



Rob Neale is Vice President, National Fire Service Activities International Code Council.

Verifying Technical Competency

Modern commerce thrives on consumer education and awareness. People who buy products and services want to know they are getting value and quality for their investment. In many cases, this combination of service and skill is regulated by government rules that are intended to protect the public through performance testing and certification to verify that someone is competent to perform the service they offer.

No one questions that we require training and certification for medical personnel. Many states regulate cosmetologists and nail technicians. Even the National Association of Pet Sitters offers a certification program.

But what do we do with the men and women we task with reviewing, approving and inspecting essential life safety and fire protection features as fire alarm and sprinkler systems? To address the gap in assessing technical competence, the International Code Council (ICC) offers five professional certifications for government and industry: commercial fire alarm inspector, commercial fire alarm plans examiner I and II, commercial fire sprinkler plan reviewer and commercial fire sprinkler inspector.

Table 1 provides a sample content breakdown of one of the certification exams. Some of these general categories have two or more subcategories with related content.

The certification exams are based on the International codes and corresponding National Fire Protection Association (NFPA) standards such as

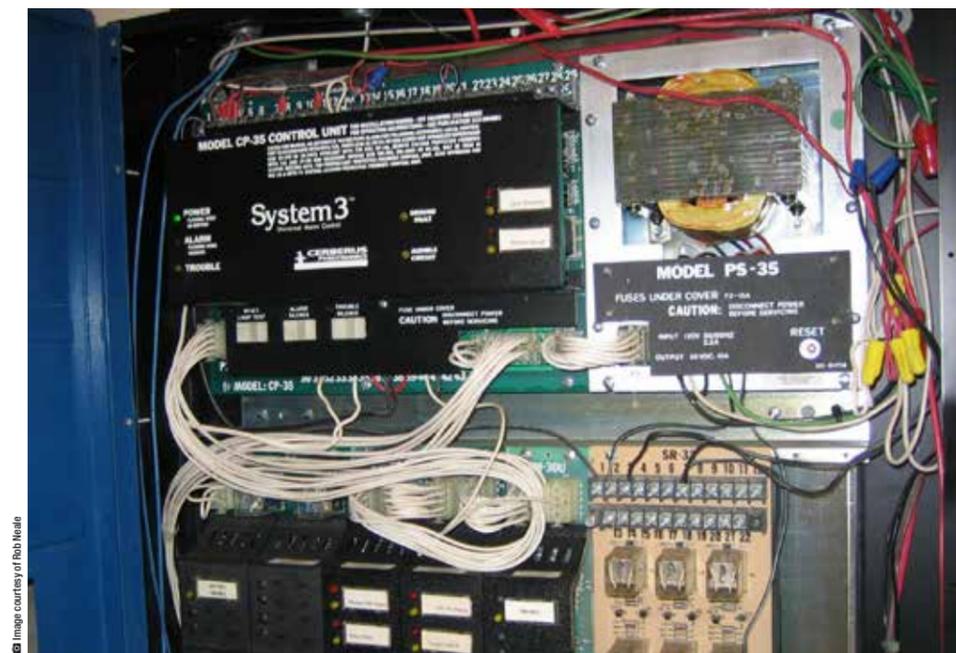


Image courtesy of Rob Neale

NFPA 13 for fire sprinkler systems and NFPA 72 for fire detection and alarm systems. The open-book exams range from 60-75 multiple choice question over two to two-and-one-half hours. The exams may be taken in paper and pencil or online format. Exam fees are \$199. For more information and registration details, visit the ICC national exam and certification site at <http://www.iccsafe.org/education-certification/certifications-and-testing/national-exam-info-registration/>.

Program History

The push for these certifications began about a decade ago when the city of Henderson, Nevada, was evaluating

▲ **The commercial fire alarm inspector certification assesses the candidate's knowledge of fire alarm control unit installation and wiring methods.**

the overall performance of its code enforcement efforts. The building official was able to amend the inspector's and plans examiners' job descriptions to require they obtain certifications in the disciplines in which they were working (e.g. plumbing, mechanical, structural). Subsequent negotiations with employees resulted in agreements that since employment conditions had changed there should be a corresponding change in wages.

Fulton Cochran, assistant fire chief at Clark County Department of Building and Fire Prevention and former deputy fire marshal in Henderson, explained there was a pay disparity of about 8% between the building code plans examiners and those performing fire code plan reviews. To achieve parity, the city insisted the fire plans examiners have an equal number of professional certifications to those performing building plan reviews. At the time, fire-related certifications did not exist and those produced by the National Institute for Certification in Engineering Technology (NICET) were addressed more to the industry side of design and installation rather review and approval.

When Cochran became a member of the ICC Fire Service Membership Council he worked on the Board for International

Topic	Test Weighting (%)
Ability to read plans	9
Use Group/Construction type/Hazard classification	9
Seismic and Freeze Protection	6
Hydraulic Calculations and Water Supply	31
Standpipes	11
Fire pumps	8
Commodities/Storage	8
Fire Department Connection	7
Materials (Pipe/valves/fittings)	11
Total	100



Images courtesy of Robb Neale



▲ The regular maintenance and inspection requirements for fire pump assemblies – such as this horizontal split case pump – are evaluated in the commercial fire sprinkler inspector certification examination.

◀ The commercial sprinkler plans examiner and inspector exams test one's ability to evaluate sprinkler obstructions and find approved solutions.

The fact that we have certifications on the inspection side, he added, provides an avenue for licensing and certification and third party providers.

The future

So what does the future hold for these certifications? How does someone convince an employee who has many years of experience in sprinkler or fire alarm plan review and inspection that he or she needs to be certified? According to Cochran, “the counter back is ‘well, how you are going to show me you are in touch with the current standards? Show me you are a 30-year veteran, not a one year veteran who did something 30 times.’”

The quickest way to move toward certification, Cochran said, would be to get a state to adopt certification requirements for fire alarm and sprinkler systems into their statewide requirements.

Meanwhile, ICC is moving forward with new marketing efforts to explain the programs’ value to government officials and private industry partners. ICC has begun to work with the American Fire Sprinkler Association and the Automatic Fire Alarm Association to gauge their interest in the certification programs. ICC will be reaching out to other trade and governmental organizations over the next few months.

Summary

Professional qualifications for public and private sector personnel engaged in critical fire and life safety system design, plan review and inspection are an important way to assess performance and establish baseline qualifications. Testing and certification assure that minimum qualifications are met, there is consistency in the level of service provided, and the certified person has been assessed at a high level of competence. Isn't that the least we should expect from people in this business?

For more information, go to www.cdpACCESS.com

References

1. http://www.petsitters.org/napps_certification.php.
2. These certification exams are open to government and private sector candidates. The description “commercial” is only to distinguish the certifications from “residential” examinations. ICC also offers a residential sprinkler fire inspector/plans examiner certification.

Professional Standards where he realized he was in a position to influence the development of these new certifications. The ICC conducted a nationwide needs analysis and developed the five certifications and exams based on those results.

Cochran said the certification programs are especially important in those jurisdictions that may not have experienced fire service plan examiners. “If I’m a building official,” he said, “I would like to know my plan reviewers have some level of competence and not just looking at the name of a [design or engineering] company and stamping it off.”

Although the certification programs have been available for two years, government and industry participation has been disappointing. There are

several fundamental challenges to its success, Cochran said. The first is increasing code officials’ awareness of the programs. Second, he said, current job descriptions may not require the certifications. Cochran suggested jurisdictions shouldn’t wait for a vacancy to update job descriptions, but should work with staff and collective bargaining organizations to keep them current.

A third way, Cochran said, is in those states where the state fire marshal establishes minimum performance standards the states could leverage the requirements for certifications. “This would be the fastest way to effect change,” he said. “If all jurisdictions would move forward into certification requirements, we could tell people ‘if you want to have these jobs, you need to have these credentials.’”