FIRE ALARM SYSTEMS: WHO MUST?? - WHO SHOULD??

INSTALL / VERIFY / INSPECT & TEST

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For years our industry has been working out the questions related to the 'what has to be done' during a Verification or an Annual Inspection and Test. More recently it seems that the most often asked questions have to do with the 'who' of it. Who installs??? Who Verifies??? Who performs the periodic Inspections and Tests??? And even 'who' decides???

A thought-provoking memo has been written by Mr. Art Tsisserev, P.Eng, Chief Electrical Inspector, City of Vancouver, BC. His primary concern relates to the required Verifications that must be performed in accordance with CAN/ULC-S537 Standard for the Verification of Fire Alarm Systems. With his permission, his memo appears in this Journal issue and is also posted on this website. It is our hope that his memo will spark further discussion. Indeed, we encourage your written responses to the entire question of 'Who?'. And let's broaden the discussion to all facets of this question: installations, verifications and inspections.

Background: The building codes and the standards that apply to our industry tell us what to do. They do not (they cannot) state who is to perform the work. Let's discuss this, and let's begin with installations.

WHO MUST?? WHO SHOULD?? INSTALL

The building codes (National and Provincial) require that a Fire Alarm System (FAS) must be designed in accordance with Part 3 therein, and therefore a FAS necessarily falls under the Municipal Building Permit process. The Building Code references CAN/ULC-S524 Standard for the Installation of Fire Alarm Systems which in turn references the Electrical Code thereby making both of these documents a legal requirement. The Electrical Code requires that the installer apply for an electrical permit, which of course leads to inspections by the local Electrical Authority. It is agreed by most everyone, that work performed under the Electrical Code must be done by an Electrician. It therefore follows that a FAS must be installed by an Electrician. So far - so good - but does this go far enough? The installation of a FAS includes many factors such as the proper selection and subsequent installation of raceways, conductors and outlet boxes. And it then includes the actual connection of all system field devices to the conductors. Lastly, the installation then includes the final connections of the field circuits into the control equipment.

It is true that a FAS is somewhat different than many (most?) other systems, in that the electrical conductors must be of certain specific types acceptable under the Electrical Code with special attention paid to temperature and insulation ratings, and the size and quantity of conductors in multi-conductor cables.

Equally important is the Building Code reference to CAN/ULC-S524 Standard for the Installation of Fire Alarm Systems. This document, of far greater breadth and complexity than
the small Section 32 of the Electrical Code, contains hundreds of detailed requirements relating
to the installation of FAS field devices, control equipment and wiring to name just a few. Full
knowledge of this standard is of paramount importance. Full knowledge of this standard (and all
other related codes and standards) can come from an educational program relating specifically to
the fire alarm industry. The CFAA Fire Alarm Technician program has been accepted by most
jurisdictions across Canada, and approximately 2,200 Fire Alarm Technicians are now active
across the country. Many electricians have successfully completed the CFAA Program and carry
CFAA Technician identification.

So - who must install a Fire Alarm System? An Electrician.

Who should install a Fire Alarm System? An Electrician who has completed an 'accredited' FAS
educational program. The local Authority Having Jurisdiction should determine what is an
acceptable program.

WHO MUST?? WHO SHOULD?? VERIFY

The Building Code references CAN/ULC-S537 Standard for the Verification of Fire Alarm
Systems, which thereby makes the standard a legal requirement. The standard tells what to do
and how to do it. In the Preface to the standard, however, are references as to 'who' should do the
work. We are well aware that the contents of the preface are not legally binding. However, in the
absence of any legally-binding national requirements, why not follow the recommendations
contained in the preface. From one side of the question, they are totally supportable and
acceptable recommendations. Besides, one cannot reasonably be faulted for enforcing these
recommendations.

Here is what the Preface to the standard says about 'who' should perform the Verification:

- Not the organization (company) that designed the system.

- Not the organization (company) that installed the system.

Who then? Qualified personnel in the employ of an organization acceptable to the

- Authority Having Jurisdiction.

- A qualified person would be one who has successfully completed an accredited FAS
  Technician Program.

- An organization acceptable to the Authority Having Jurisdiction quite understandably should
  be the manufacturer or a related engineered systems distributor - one whose Technicians have
  received factory training on the specific equipment to be verified.

These are totally supportable and acceptable recommendations. And again, one cannot
reasonably be faulted for enforcing these recommendations.
WHO MUST?? WHO SHOULD?? INSPECT AND TEST

The requirements for inspections, tests and maintenance of a FAS comes from the applicable Fire Code (National or Provincial). Fire Codes often reference CAN/ULC-S536 Standard for the Inspection and Testing of Fire Alarm Systems, which therefore makes the standard a legal requirement.

Here is what the Preface to the standard says about ‘who’ should perform the Inspection and Test procedures: Qualified personnel acceptable to the Authority Having Jurisdiction.

- A qualified person would be one who has successfully completed an accredited FAS Technician Program. This should be sufficient if the FAS in a particular building is small and of conventional design.

As a point of interest - the Ontario Fire Code contains a definitive requirement for people who work on a FAS in Ontario:

"Any person who performs the annual tests or annual inspections . . . and any person who repairs, replaces or alters components of a fire alarm system shall . . . have successfully completed a program or course acceptable to the Fire Marshal, . . . ".

The CFAA Technician Program has been reviewed by the Office of the Ontario Fire Marshal and was found to be acceptable.

In a building that is protected by a large and complex FAS - the Authority Having Jurisdiction may quite understandably require that in addition to being a registered Technician, that Technician should also have received specific training on the particular equipment in that building.

WHO MUST? WHO SHOULD?

In many cases then, the local Authority Having Jurisdiction will be called upon to make a judgement relative to who is acceptable to perform the work. Only part of that decision can be based upon the requirements that currently exist, while the other part of the decision will have to be based upon experience and common sense. And we should all strive to put into place (nationally, provincially, or locally) the specific requirements that will clarify this question for all of us.