THE 10 BIGGEST MISTAKES MADE DURING INSPECTIONS AND VERIFICATIONS AND RECOMMENDATIONS TO OVERCOME THEM

BY PAUL JEWETT
Number 10 Bypassing by Disconnecting Unsupervised Panel Connections

• Many fire alarm panels do not have bypass/disconnect switches for alarm activation of the following
  – Fire Department Connections
  – Elevator Recall
  – Fans, damper, and smoke control
  – Door holder and Maglocks
  – Ancillary functions.
Number 10 Bypassing by Disconnecting Unsupervised Panel Connections

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Number 10 Bypassing by Disconnecting Unsupervised Panel Connections
Number 10  Bypassing by Physically Disconnecting Unsupervised Panel Connections

Problem;

- In many buildings, in order to conduct testing of the system, you have to physically disconnect the wiring. This is dangerous!!
- In our busy world people forget or get distracted and the result is the system can be left with important functions disabled.
- Sometimes several technicians can work on the site at the same time. The right hand does not always know what the left hand has done.
Number 10  Bypassing by Physically Disconnecting Unsupervised Panel Connections

My Recommendations

• If you have to physically disconnect an unsupervised terminal or wire then:
• Tag it so you know how it was connected.
• Make a checklist and post it if possible on the panel so you or others don’t forget.
• Make a sketch or take a picture.
Number 9
Being a nice guy!

Ever Heard this:

“It’s been like that for ten years and nobody ever said it was wrong including the Fire Department.”
Well this should be easy.

CAN/ULC-S536 5.7 Field Devices

5.7.1.1 Each field device shall be inspected to confirm the following, as applicable:

– A Free of damage;
– B Free of foreign substance (e.g. paint);
Number 9
Being a nice guy!

Problem
• The bell seems to work just fine. The customer does not want to replace it and does not want it to be a deficiency.

My solution
• Write it up as a deficiency. If the AHJ does not care about it then he does not have to replace it.
• If you don’t write it up then your credibility may be questioned down the road.
My Motto

“Remember who has to sign the report.”

John Doe

123455678

Signature of Primary or Supervising Technician Conducting the Test and Inspection

Identification Number of Primary or Supervising Technician Conducting the Test and Inspection
Number 8
Reporting Equipment Failures

Problem

- While doing an inspection on a high rise you discover a major problem.

Example

- The signals on several floors are not operating and the panel shows no troubles. What do you do?

My Recommendations (I have talked to the T.F.D. several times on the subject in the past)

- Inform the building owner or his representative of the problem in writing immediately (make sure you get a signature). It is his responsibly for fire watch or alternate measures for fire safety and his responsibly to inform local fire departments.

- Remember its not the inspecting technician’s problem the system does not operate properly but he does have a responsibility to inform others.
“Sometimes a picture is worth a thousand words.”

- What model is the detector?
- How dirty is it?
- It’s mounted on a return air grill!

Using a picture in a report is a very effective means of communication.
Number 7 Describing a Problem

I took this shot when I was in the Caribbean a few years ago

My Recommendation
Take a Picture
Number 6
No Documentation

- Can/ULC-S536-04
- 3. General Requirements
- 3.6 A description of the system, as installed at the time of the annual inspection and test, including the sequence of operation of the system, shall be available on site and documented as detailed in Appendix C....
Number 6
Documentation

E1. Fire Alarm System Annual Test and Inspection Report

| D | The fire alarm system documentation is on site and includes a description of the system. | Yes ☐ No ☐ N/A ☐ |

- Is a “No” answer to this question important?
- What does an N/A mean?
- Is it a deficiency?
Number 6 Documentation

- So what is this Manual Station supposed to do?
Number 6
Documentation

• Lets be practical
• Most older systems do not have the documentation.
• Most fire safety plans do not have a lot of detail.

My Recommendations

If the system does not have the documentation then:
• Answer No in the question box
• It is a deficiency
• Include a description of the system operation including any special features such as smoke control, and ancillary devices.
Number 5
Is this a Deficiency when doing S537-06?

What if someone installed a smoke detector here?

Note: It's 10 stories straight up!
Number 5
Is this a Deficiency when doing S537-06?

Remember the scope of work to be performed

1.1 This standard prescribes inspection and test procedures for the purpose of verifying that the fire alarm system is installed in conformance with the **design** and **CAN/ULC-S524**, Standard for the Installation of Fire Alarm Systems ....
Number 5
Is this a Deficiency when doing S537-06?

- S524-06
- 5.6.1.3 Each fire detector shall be accessible for periodic maintenance and testing. Where spot type fire detectors are not readily accessible due to safety considerations (e.g. continuous process operations, energized electrical equipment, radiation, and excessive height) alternate methods of detection shall be utilized (e.g. beam type smoke detector or aspiration type smoke detector).
Number 5
Is this a Deficiency when doing S537-06?

Problem:
• The design called for the spot smoke detector to be there but S524-06 says that alternate methods of detection shall be utilized.
• If you report it as a deficiency you may get a lot of pressure to change your mind because of the $$$ factor.

My Recommendations:
• Report it as a deficiency. If you cannot inspect it or test it, it is a deficiency period.
• Remember next year someone has to inspect it!
Number 4
Required tests that are not recorded

- Unfortunately some required tests in S537 are rarely done because there is no requirement to record the results other than a global checkbox.
- Example:
  - 3.3.2.1 Tests shall be conducted to determine that the field devices at the electrically furthest point from the power source in every circuit receives rated operating power as per rated electrical characteristics in accordance with the manufacturer’s specification.

C3 Field device and related circuits-Test and Inspection

<table>
<thead>
<tr>
<th></th>
<th>Field device at the electrically furthest point from the power source (in every circuit) receives rated power in accordance with manufacturer’s specifications</th>
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<tbody>
<tr>
<td></td>
<td>Yes ☐  No ☐  N/A ☐</td>
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Number 4
Required tests that are not recorded

• Personal Notes:
  – When I have discussed this item with other people in the industry I sometimes get comments that required tests are not meant to measure the voltage. However I cannot see any other way to do it.

• My Recommendation
  – Record the voltage in the remarks column on the device page (yes I realize that the signal devices have to be in alarm).
Number 3
Trust

Problem

• You are doing an inspection of a large building and the owner wants the signals to sound only for a few minutes so he organizes his staff to listen for the signals.
• This seems to be a good idea but do the staff really know what their checking?
• Personal Experience note
  – I have had bad experiences relying on others doing testing in this manner. Coordination and experience seems to be the biggest problem.
• My Recommendation is not to put Trust in people who are uncertain about what their task is.

Remember my motto.
Number 2
Communications

• In my opinion in order to do a Verification 100% it requires two people most of the time. One to perform the tests the other to observe the operation of the control panel.

• Without good communication between the two is when mistakes happen. Descriptions of device location and device operation are most common.
Number 2
Communications

• In today’s world using Fisher Price radio’s and hand signals just are not acceptable.

• Running back to the control panel every time you test a device is just silly.

My recommendation is to spend the money and get good equipment. It will make you money in the long run.
Number 1
Not Being Organized

• The number one reason in my opinion why inspections are not successfully completed is lack of organization on the part of fire protection companies, technicians, and the building owner or his staff.

• Before starting any inspection the following should be discussed with the building owner.
  – Documentation of the system. Where is it?
  – Access to all parts of the building including tenant space, mechanical and electrical rooms.
  – Co-ordination of other trades such as elevator and sprinkler.
  – Availability of ladders and lift equipment
  – Acceptable times for signal tests
  – Hours of work
  – Any other special requirements.

• My recommendation is to make a check list.