



# PSI, F.Y.I.

*Engineering... Training... and YOU*

## Headlines:

- Fire Systems Visual Testing Frequencies
- Fire Systems Functional Testing Frequencies
- Fire systems Acceptance & Re-Acceptance Testing

## FIRE PROTECTION SERVICE TESTING FREQUENCIES

### Fire Alarm Acceptance & Re-Acceptance Testing

In order to clarify what extent of testing is required, the following is a brief outline of the NFPA72 requirements for acceptance and re-acceptance testing.

- 100% system testing is required on all new fire systems.

**IT IS THE POLICY OF PSI THAT ANY PANEL REPLACEMENT WHICH REQUIRES THE PROGRAM TO BE REWRITTEN IS CONSIDERED A NEW SYSTEM REQUIRING 100% TESTING.**

- When modifications or repairs to control equipment are made,
- When any changes are made to site-specific software, all

the control equipment must be tested in accordance with Table 10.4.2.2, items 1(a) and 1(d). In addition, a 10% uncritical test must be performed to include at least one device on each input and each output circuit.

- When a device is added to an existing system, it shall be functionally tested.

functions known to be affected by the change must be 100% tested. In addition, 10% of initiating devices that are not affected by the change (max. 50 devices) must also be tested. A revised record of completion must be issued reflecting all changes.

## Upcoming Events!

- None scheduled at this time.

## Florida Systems Visual Testing Frequencies

NFPA72 requires testing of fire systems in accordance with Table 10.3.1 Visual Inspection Frequencies for periodic testing to ensure there are no changes that affect equipment performance.

Table 10.3.1 Visual Inspection Frequencies

Component	Initial/ Reacceptance	Monthly	Quarterly	Semiannually	Annually
1. Control Equipment: Fire Alarm Systems Monitored for Alarm, Supervisory, and Trouble Signals					
(a) Fuses	X	—	—	—	X
(b) Interfaced equipment	X	—	—	—	X
(c) Lamps and LEDs	X	—	—	—	X
(d) Primary (main) power supply	X	—	—	—	X
2. Control Equipment: Fire Alarm Systems Unmonitored for Alarm, Supervisory, and Trouble Signals					
(a) Fuses	X (weekly)	—	—	—	—
(b) Interfaced equipment	X (weekly)	—	—	—	—
(c) Lamps and LEDs	X (weekly)	—	—	—	—
(d) Primary (main) power supply	X (weekly)	—	—	—	—
3. Batteries					
(a) Lead-acid	X	X	—	—	—
(b) Nickel-cadmium	X	—	—	X	—
(c) Primary (dry cell)	X	X	—	—	—
(d) Sealed lead-acid	X	—	—	X	—
4. Transient Suppressors	X	—	—	X	—
5. Fire Alarm Control Unit Trouble Signals	X (weekly)	—	—	X	—
6. Fiber-Optic Cable Connections	X	—	—	—	X
7. Emergency Voice/Alarm Communications Equipment	X	—	—	X	—
8. Remote Annunciators	X	—	—	X	—
9. Initiating Devices					
(a) Air sampling	X	—	—	X	—
(b) Duct detectors	X	—	—	X	—
(c) Electromechanical releasing devices	X	—	—	X	—
(d) Fire extinguishing system(s) or suppression system(s) switches	X	—	—	X	—
(e) Fire alarm boxes	X	—	—	X	—
(f) Heat detectors	X	—	—	X	—
(g) Radiant energy fire detectors	X	—	X	—	—
(h) Smoke detectors (excluding one- and two-family dwellings)	X	—	—	X	—
(i) Supervisory signal devices	X	—	X	—	—
(j) Waterflow devices	X	—	X	—	—
10. Guard's Tour Equipment	X	—	—	X	—
11. Combination Systems					
(a) Fire extinguisher monitoring device/systems	X	—	—	X	—
(b) Carbon monoxide detectors/systems	X	—	—	X	—
12. Interface Equipment	X	—	—	X	—
13. Alarm Notification Appliances — Supervised	X	—	—	X	—
14. Exit Marking Audible Notification Appliances	X	—	—	X	—
15. Supervising Station Fire Alarm Systems Transmitters					
(a) DACT	X	—	—	X	—
(b) DART	X	—	—	X	—
(c) McCulloh	X	—	—	X	—
(d) RAT	X	—	—	X	—
16. Special Procedures	X	—	—	X	—
17. Supervising Station Fire Alarm Systems — Receivers					

## Fire Systems Functional Testing Frequencies

NFPA72 also requires testing of fire systems in accordance with Table 10.4.4 Testing Frequencies in order to verify operation. The following is a brief outline of additional NFPA72 testing requirements that are not reflected in the attached tables.

- If devices are inaccessible for safety reasons, testing frequency is permitted to be extended in order to coincide with operational equipment shutdown schedules.
- Sensitivity must be checked within 1 year of installation and every alternate year thereafter.
- Detectors found to be outside the listed sensitivity range shall be cleaned and recalibrated or replaced.
- Two or more detectors per circuit must be tested annually.

- Different detectors must be tested each year.
  - All detectors must be tested within 5 years.
- The most common items tested by Protective Systems, Inc. are marked below for quick reference.

Table 10.4.4 Testing Frequencies

Component	Initial/ Reacceptance	Monthly	Quarterly	Semiannually	Annually	Table 10.4.2.2 Reference
1. Control Equipment — Building Systems Connected to Supervising Station						1, 7, 16, 17
(a) Functions	X	—	—	—	X	—
(b) Fuses	X	—	—	—	X	—
(c) Interfaced equipment	X	—	—	—	X	—
(d) Lamps and LEDs	X	—	—	—	X	—
(e) Primary (main) power supply	X	—	—	—	X	—
(f) Transponders	X	—	—	—	X	—
2. Control Equipment — Building Systems Not Connected to a Supervising Station	—	—	—	—	—	1
(a) Functions	X	—	X	—	—	—
(b) Fuses	X	—	X	—	—	—
(c) Interfaced equipment	X	—	X	—	—	—
(d) Lamps and LEDs	X	—	X	—	—	—
(e) Primary (main) power supply	X	—	X	—	—	—
(f) Transponders	X	—	X	—	—	—
3. Engine-Driven Generator — Central Station Facilities and Fire Alarm Systems	X	X	—	—	—	—
4. Engine-Driven Generator — Public Fire Alarm Reporting Systems	X (weekly)	—	—	—	—	—
5. Batteries — Central Station Facilities						—
6. Batteries — Fire Alarm Systems						—
(a) Lead-acid type	—	—	—	—	—	6b
(1) Charger test (Replace battery as needed.)	X	—	—	—	X	—
(2) Discharge test (30 minutes)	X	—	—	X	—	—
(3) Load voltage test	X	—	—	X	—	—
(4) Specific gravity	X	—	—	X	—	—
(b) Nickel-cadmium type	—	—	—	—	—	6c
(1) Charger test (Replace battery as needed.)	X	—	—	—	X	—
(2) Discharge test (30 minutes)	X	—	—	—	X	—
(3) Load voltage test	X	—	—	X	—	—
(c) Primary type (dry cell)	—	—	—	—	—	6a
(1) Age test	X	X	—	—	—	—
(d) Sealed lead-acid type	—	—	—	—	—	6d
(1) Charger test (Replace battery within 5 years after manufacture or more frequently as needed.)	X	—	—	—	X	—
(2) Discharge test (30 minutes)	X	—	—	—	X	—
(3) Load voltage test	X	—	—	X	—	—
7. Power Supply — Public Fire Alarm Reporting Systems	—	—	—	—	—	—
8. Fiber-Optic Cable Power	X	—	—	—	X	13b
9. Control Unit Trouble Signals	X	—	—	—	X	10
10. Conductors — Metallic	X	—	—	—	—	12
11. Conductors — Nonmetallic	X	—	—	—	—	13
12. Emergency Voice/Alarm Communications Equipment	X	—	—	—	X	21
13. Retransmission Equipment (The requirements of 10.4.9 shall apply.)	X	—	—	—	—	—
14. Remote Annunciators	X	—	—	—	X	11

## Today's

### References:

- NFPA72, 2007ed. 10.3
- NFPA72, 2007ed. 10.4.4

Table 10.4.4 Testing Frequencies

Component	Initial/ Reacceptance	Monthly	Quarterly	Semiannually	Annually	Table 10.4.2.2 Reference
15. Initiating Devices	—	—	—	—	—	14
(a) Duct detectors	X	—	—	—	X	—
(b) Electromechanical releasing device	X	—	—	—	X	—
(c) Fire extinguishing system(s) or suppression system(s) switches	X	—	—	—	X	—
(d) Fire-gas and other detectors	X	—	—	—	X	—
(e) Heat detectors (The requirements of 10.4.4.4 shall apply.)	X	—	—	—	X	—
(f) Fire alarm boxes	X	—	—	—	X	—
(g) Radiant energy fire detectors	X	—	—	X	—	—
(h) System smoke detectors — functional test	X	—	—	—	X	—
(i) Smoke detectors — sensitivity testing in other than one- and two-family dwellings (The requirements of 10.4.4.2 shall apply.)	—	—	—	—	—	—
(j) Single- and multiple-station smoke alarms (The requirements for monthly testing in accordance with 10.4.5 shall also apply.)	X	—	—	—	X	—
(k) Single- and multiple-station heat alarms	X	—	—	—	X	—
(l) Supervisory signal devices (except valve tamper switches)	X	—	X	—	—	—
(m) Waterflow devices	X	—	—	X	—	—
(n) Valve supervisory switches	X	—	—	X	—	—
16. Guard's Tour Equipment	X	—	—	—	X	24
17. Combination Systems						
(a) Fire extinguisher monitoring device/systems	X	—	—	—	X	21a
(b) Carbon monoxide detectors/systems	X	—	—	—	X	21b
18. Interface Equipment and Fire Safety Functions	X	—	—	—	X	22, 23
19. Special Hazard Equipment	X	—	—	—	X	17
20. Alarm Notification Appliances	—	—	—	—	—	15
(a) Audible devices	X	—	—	—	X	—
(b) Audible textual notification appliances	X	—	—	—	X	—
(c) Visible devices	X	—	—	—	X	—
21. Exit Marking Notification Appliances	X	—	—	—	X	16
22. Off-Premises Transmission Equipment	X	—	X	—	—	—
23. Supervising Station Fire Alarm Systems — Transmitters	—	—	—	—	—	18
(a) DACT	X	—	—	—	X	—
(b) DART	X	—	—	—	X	—
(c) McCulloh	X	—	—	—	X	—
(d) RAT	X	—	—	—	X	—
24. Special Procedures	X	—	—	—	X	25
25. Supervising Station Fire Alarm Systems — Receivers	—	—	—	—	—	19
26. Public Fire Alarm Reporting System Transmission Equipment	—	—	—	—	—	—

Protective Systems, Inc. places a high value on individual education. We are dedicated to providing ongoing training for our managers, designers, and technicians who are expected to maintain a minimum NICET II certification in fire alarm and/or fire special hazards.

As codes, applications and enforcements are continually changing, Protective Systems, Inc. feels it is important to highlight specific topics to provide clarification and encourage discussion.

Please forward all correspondence to [kim.nielsen@callpsi.com](mailto:kim.nielsen@callpsi.com)

PSI, F.Y.I.

Editor, Kim Nielsen

#### Orlando

220 Springview Commerce Dr. #170  
DeBary, FL 32713  
Phone: 386-944-5820  
Fax: 386-668-0877  
Email: [kim.nielsen@callpsi.com](mailto:kim.nielsen@callpsi.com)

#### S. Florida

1719 NW 79th Ave.  
Doral, FL 33126

#### Tampa

5404 56th Commerce Park Blvd.  
Tampa FL 33619