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## Fire Alarm and Detection Systems Visible Alarms - System Replacement v. Upgrades

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**This policy is subject to revision - download the latest version at: [www.cor.net/fire](http://www.cor.net/fire).**

**901.4 Installation.** Fire protection systems shall be maintained in accordance with the original installation standards for that system. Required systems shall be extended, altered or augmented as necessary to maintain and continue protection whenever the building is altered, remodeled or added to. Alterations to fire protection systems shall be done in accordance with applicable standards.

- ❖ This section emphasizes that systems installed and maintained in compliance with the codes and standards in effect at the time they were placed in service must remain operational at all times. It is not the intent of the code to require existing systems that are otherwise not being altered to comply with current code and standard requirements. An existing system, even if it does not meet current standards, is allowed to continue in service as long as it continues to provide no less quality in service than what was originally in place. Hence, if an alteration or expansion of the system is proposed, the key is whether or not the level of protection afforded by the system is the same or greater than what it was before the alteration or expansion was considered. Any added sections of the system must meet the requirements for new fire protection according to the system involved.

**907.5.2.3 Visible alarms.** Visible alarm notification appliances shall be provided in accordance with Sections 907.5.2.3.1 through 907.5.2.3.3.

### **Exceptions:**

1. When approved by the fire code official, visible alarm notification appliances are not required in alterations, except where an existing fire alarm system is upgraded or replaced, or a new fire alarm system is installed.
  2. Visible alarm notification appliances shall not be required in exits as defined in Chapter 2.
  3. Visible alarm notification appliances shall not be required in elevator cars.
  4. Visual alarm notification appliances are not required in critical care areas of Group I—2 Condition 2 occupancies that are in compliance with Section 9072.6.
- ❖ This section contains alarm system requirements for occupants who are hearing impaired. Visible alarm notification appliances are to be installed in conjunction with the audible devices and located and oriented so that they will display alarm signals throughout a space. It is not the intent of the code to offer visible alarm signals as an option to audible alarm signals. Both are required. However, the code acknowledges conditions when audible alarms may be of little or no value, such as when the ambient sound level exceeds 105 dBA. In such cases, Section 907.6.2.1, similar to NFPA 72, allows for visible alarm notification appliances in the area.

*Exception 1 states that [when approved by the fire code official] visible alarm devices are not required in previously approved existing fire alarm systems or as part of minor alterations to existing fire alarm systems. Extensive modifications to an existing fire alarm system such as an upgrade or replacement would require the installation of visible alarm devices even if the previous existing system neither had them nor required them. The main reason is a combination of simple economics and practical application. Many existing systems that do not have visible signal devices do not have the wiring capability to include such devices in their small alterations. To make the necessary changes to the existing system virtually a total replacement of the existing system may need to take place. In many cases this is cost prohibitive. Thus, if the alteration is small, the system can be left as is, without the visual devices. The second consideration is scope. If the alternation involves only a limited area, it could be confusing to have part of the area equipped with visual devices and part without. This is not good practice, as the alarm could be confusing. If an entire floor is being altered, then it becomes subject to consideration for an upgrade to an alarm system with visual devices. If only an office is being remodeled, then the implication is that the upgrade to visual devices may not be warranted. This determination will be subjective in many cases and should be applied based on the life safety benefit and financial expenses involved and whether adequate audible devices are present for full coverage.*