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The following issue of TechNotes has been written by Robert (Bob) Upson, Manager of Engineering Services for the NFSA.

Just exactly who is this mysterious 'AHJ' everyone keeps talking about?

NFPA standards refer often to the 'Authority Having Jurisdiction' (AHJ) in a variety of contexts. We tend to take for granted that it typically refers to either the 'Building Official' or the 'Fire Marshal' but that's not always the case.

It's important to know exactly who the AHJ is for any given aspect of a project and to understand exactly what the jurisdiction of each AHJ covers. (or AHJs, there can often be more than one!) Why? Because NFPA codes and standards are full of requirements for 'approved' devices, methods, and arrangements. Whose approval? The AHJ's:

Approved - acceptable to the AHJ

The AHJ appears throughout NFPA codes and standards and is included in the 'NFPA Official Definitions' section of all of them:

Authority Having Jurisdiction - An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

We tend most often to think of 'the AHJ' as the individual or individuals responsible for enforcing building or fire codes (e.g. the plans examiner who reviews and approves (hopefully) shop drawings for sprinkler installations, the field inspector who inspects installed systems for initial system acceptance and approval, or the building official who issues the final certificate of occupancy), but it goes beyond that. As the annex commentary to the NFPA definition of AHJ illustrates, a whole variety of officials and interests can be AHJ's in a given context:

Authority Having Jurisdiction (AHJ). The phrase "authority having jurisdiction," or its acronym AHJ, is used in NFPA documents in a broad manner, since jurisdictions and approval agencies vary, as do their

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June 19, 2018

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per NFPA 291
by Roland Asp, CET
Manager of
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Did You Know??

The NFSA keeps a member of the Engineering Department staff on duty every business day to answer your technical questions live. We call this the Expert of the Day (EOD) program and it is available to our members by phone, fax or e-mail. Call us at (845) 878-4200 and press 2, or you can send a fax to (845) 878-4215, or you can e-mail us at eod@nfsa.org. Last year we answered more than 2600 requests for assistance.

responsibilities. Where public safety is primary, the authority having jurisdiction may be a federal, state, local, or other regional department or individual such as a fire chief; fire marshal; chief of a fire prevention bureau, labor department, or health department; building official; electrical inspector; or others having statutory authority. For insurance purposes, an insurance inspection department, rating bureau, or other insurance company representative may be the authority having jurisdiction. In many circumstances, the property owner or his or her designated agent assumes the role of the authority having jurisdiction; at government installations, the commanding officer or departmental official may be the authority having jurisdiction.

It all comes down to who is empowered to 'speak the law' regulating various aspects of a project and any given project is likely to fall within the realm of multiple jurisdictions ranging for the building code, NFPA 13, the public health code, the Americans with Disabilities Act, Environmental Protection Agency regulations, The Joint Commission, and all those pesky state and local amendments. Not to mention insurers and building owners who are, within their sphere of influence, AHJs in their own right.

jurisdiction

noun | ju-ris-dic-tion | \ jūr-əs-'dik-shən \
 the power, right, or authority to interpret and apply the law; a matter that falls within the court's jurisdiction
 - Merriam-Webster.com

In short, every job is likely to have more than one AHJ. On a typical fire protection job, the primary AHJ is typically the Building Official, the Fire Marshal, or both. But even a simple job is likely to involve additional AHJs. For instance, NFPA 13 and NFPA 14 both provide similar requirements for the specifications fire department connections (FDCs) and both rely heavily on the approval of the AHJ.



NFPA 13 (2016)	NFPA 14 (2016)
6.7 Fire Department Connections.	4.8 Fire Department Connections. (See Figure A.6.4.)
6.7.1* Unless the requirements of 6.7.1.1, 6.7.1.2, or 6.7.1.3 are met, the fire department connection(s) shall consist of two 2 1/2 in. (65 mm) connections using NH internal threaded swivel fitting(s) with "2.5–7.5 NH standard thread," as specified in NFPA 1963.	4.8.1 Fire department connections shall be listed for a working pressure equal to or greater than the pressure requirement of the system demand.
6.7.1.1 Where local fire department connections do not conform to NFPA 1963, <u>the authority having jurisdiction shall be permitted to designate the connection to be used.</u>	4.8.2 Unless the requirements of 4.8.2.1 or 4.8.2.2 are met, the fire department connection(s) shall have at least two 2 1/2 in. (65 mm) connections using NH internal threaded swivel fitting(s) with 2.5–7.5 NH standard thread, as specified in NFPA 1963. (See Sections 7.7 and 7.12 for design requirements.)
6.7.1.2 The use of <u>threadless</u> couplings shall be permitted where required by the authority having jurisdiction and where listed for such use.	4.8.2.1 Where local fire department connections do not conform to NFPA 1963, <u>the AHJ shall be permitted to designate the connection to be used.</u>
6.7.1.3 A single-outlet fire department connection shall be acceptable where piped to a 3 in. (80 mm) or smaller riser.	4.8.2.2 The use of <u>threadless</u> couplings shall be permitted where required by the AHJ and where listed for such use.
6.7.2 Fire department connections shall be equipped with approved plugs or caps, properly secured and arranged for easy removal by fire departments.	4.8.3 Fire department connections shall be equipped with approved plugs or caps, properly secured, and arranged for easy removal by fire departments.
6.7.3 Fire department connections shall be of an approved type.	4.8.4 Fire department connections shall be of an approved type.

Upcoming In-Class Seminars

The default specification for the FDC is two 2.5 inch connections threaded according to the National Hose (NH) standard - aka National Standard Thread (NST) or 'Fire Hose Thread' - but the AHJ can specify alternatives. Given that the end user, the one who will actually attach hose to the FDC, is the Fire Department, the appropriate AHJ in this case is the local Fire Chief. It's important to keep in mind that the local Fire Marshal may or may not be authorized to speak for the Chief in this matter.

Just to keep things interesting, NFPA 13 and NFPA 14 differ slightly when it comes to installation locations for the FDC. Both provide a description of 'default' locations for installation but both also explicitly recognize the AHJs authority to approve FDC locations other than the default but NFPA 14 goes a step further and wisely suggests that the AHJ should be consulted prior to establishing the location. Once again, the appropriate AHJ in this case is the Fire Chief if the Fire Marshal or Building Official has not been authorized to speak for the fire department on this matter. Failure to confirm the approved location during the planning stages can lead to problems when system acceptance time comes around.

NFPA 13 (2016)

8.17.2.4* Arrangement. See Figure 8.17.2.1.

....

8.17.2.4.6* Fire department connections shall be located at the nearest point of fire department apparatus accessibility or at a location approved by the authority having jurisdiction.

NFPA 14 (2016)

6.4.5 Location and Identification.

....

6.4.5.4* Fire department connections shall be located not more than 100 ft (30.5 m) from the nearest fire hydrant connected to an approved water supply.

6.4.5.4.1 The location of the fire department connection shall be permitted to exceed 100 ft (30.5 m) subject to the approval of the authority having jurisdiction.

....

A.6.4.5.4 The system designer should contact the AHJ prior to establishing the location of the fire department connection. The location should be based on the requirements of the fire department.

NFPA standards aren't the only places where AHJs can be found. The International Building Code (IBC) doesn't use the term AHJ but it is filled with requirements where AHJ approval is needed. The IBC tends to call out specific AHJs: The lead AHJ for the IBC, for instance, is the Building Official who may delegate authority to the fire code official for fire code related matters.

In the case of standpipes, various editions of NFPA 14 and IBC have had contradictory requirements for locating hose connections. In some editions, one requires them to be located at the main landing of required exit stairs while the other requires them to be located on the intermediate landing. Regardless of the edition, both inevitably include language permitting the AHJ to approve the alternative location. (As of the most current editions, both NFPA 14 and IBC agree on the main landing as the default, but some fire departments prefer the intermediate landing for tactical reasons.) In either case, the appropriate AHJ for a final ruling is the fire department since that's who the standpipes are being installed for in the first place.

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NFPA 14 (2016) 7.3.2* Class I Systems. Where required to be provided, hose connections shall be located in accordance with 7.3.2. 7.3.2.1 Hose connections shall be provided at each main floor landing of required exit stairs.	IBC (2018) [F] 905.4 Location of Class I standpipe hose connections. Class I standpipe hose connections shall be provided in all of the following locations:
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7.3.2.1.1* <u>Where required by the AHJ or local fire department</u> , hose connections shall be permitted to be installed at the highest intermediate floor landings between floor levels in required exit stairs.	1. In every required <i>interior exit stairway</i> , a hose connection shall be provided for each story above and below grade plane. Hose connections shall be located at the main floor landing unless otherwise <i>approved</i> by the fire code official.
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What about other AHJs? Any project in the United States involving healthcare facilities is likely to fall under the authority of the Centers for Medicare and Medicaid Services (CMS) and one of their approved organizations (e.g. the Joint Commission) enforcing NFPA 101 (2012). Properties insured by certain insurance carriers may have their own fire protection standards (e.g FM and FM Data Sheets). Government projects may be specified under the Unified Facilities Code (UFC). Water purveyors may or may not follow AWWA standards and recommendations. All of these instances include a new AHJ to be satisfied during design, installation, and maintenance of fire protection systems.

When jurisdictions overlap, they sometimes contradict each other, and it is necessary to determine how those contradictions should be resolved. When it comes to NFPA 13 (and most NFPA standards), the authority to waive or modify the requirements of the standard is subject to the AHJs approval. Similar paths to conflict resolution can be found in IBC, UFC, and typically in the statutes and regulations legally adopting codes and standards in each jurisdiction.

NFPA 13 (2016) 1.5 Equivalency. <i>Nothing in this standard is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this standard.</i> 1.5.1 <u>Technical documentation shall be submitted to the authority having jurisdiction to demonstrate equivalency.</u> 1.5.2 <u>The system, method, or device shall be approved for the intended purpose by the authority having jurisdiction.</u>	Additional / Alternative Compliance <ul style="list-style-type: none"> • NFPA 101: Life Safety Code • FM Global Property Loss Prevention Data Sheets 2-0 • UFC 3-600-01 Fire Protection Engineering for Facilities • Performance Based Design
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In the end, it is crucial for the fire protection designer to know who all of the AHJs are on any given project in any given jurisdiction. Only by knowing all the players and the requirements imposed by each, can a fire protection system be designed and installed to the satisfaction of everyone needed to ensure its timely acceptance.

