e-TechNotes

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Control Valves for Branch Lines on Standpipe Systems

During a recent on-line seminar on lateral piping in standpipe systems, an interesting discussion developed regarding the seemingly simple question, "Is a branch line required to have a control valve that isolates it from the standpipe to which it is connected?"

When originally asked this question during the seminar, the instructor answered that he did not think that a control valve was required. The participant then asked the instructor to review section 6.3.3 of the current (2010) edition of NFPA 14. The instructor promised to do this after the seminar and get back to everyone that participated in the seminar by e-mail. After studying the situation after the seminar, the instructor issued a statement out of caution saying that it might be a good idea to consider this section as requiring a control valve. A more complete discussion of the subject follows here.

Unfortunately, section 6.3.3 does not clarify the issue. Since it has been in every edition of NFPA 14 going back more than 20 years, it appears that the situation has not been discussed or altered by the committee in that timeframe. Section 6.3.3 states, "Listed indicating-type valves shall be provided at the standpipe for controlling branch lines for remote hose stations." There are at least three different ways that this can be interpreted:

1. Branch lines only need control valves if they are serving a "hose station" that is "remote" from the riser. Since a "hose station" is defined as "a combination of hose rack, hose nozzle, hose and hose connection" (see section 3.3.6) this would mean that you do not need a control valve if the standpipe is feeding a single hose connection (which is defined separately in section 3.3.2.2) without any attached hose. In theory, this would also mean that you did not need a control valve if the hose station at the end of the branch line was "close" to the standpipe. The concepts of "close" and "remote" would be subject to subjective measurement and would ultimately need to be approved by the Authority Having Jurisdiction.

2. Branch lines only need control valves if they are "remote" regardless of whether the object at the end of the branch line is a "hose connection" or a "hose station." While this interpretation stretches the use of the concept of the "hose station" term specifically used in section 6.3.3, it is not without precedent. NFPA 14 was not always so tight with a distinction between "hose connections" and "hose stations". It is only in the last few editions where the committee has placed emphasis on the different meanings to these terms. Since the standard has had this section for a long time, it could be that the committee intends to have control valves on branch lines going to remote hose connections, even though they have used sloppy terminology in the standard. At least one member of the NFPA Technical Committee on Standpipe and Hose Systems has agreed that this interpretation is possible, although he admits that it has not been discussed at any meeting that he can remember attending. This interpretation still does not resolve the issue of how close (or far) the object at the end of the branch line needs to be in order to be considered "remote".

3. All branch lines need valves because there is no definition of “remote” and the committee has been sloppy about using the term “hose station”.

Of these three interpretations, the third seems to be the least likely. Way back when the committee put this language in the standard, they could have just said, all branch lines need control valves. The fact that they did not leads one to believe that there is some criteria under which a control valve would not be needed on a branch line.

The first interpretation is certainly the one that is most defensible from a legal situation. This is quite literally the language that is in the standard. Under this interpretation, very few branch lines would require their own control valves since there are fewer and fewer hose stations being installed. Most standpipe systems these days are being installed with hose connections. Hose is not being placed on a rack at the outlet because fire fighters don’t want to rely on someone else maintaining that important piece of fire protection equipment.

The second interpretation is the most conservative. It would add control valves to many branch lines in standpipe systems. If this is the route that people want to take in interpreting the standard, it would probably be prudent to install a control valve on any branch line that takes the hose connection outside the room, compartment or stairwell that the standpipe is in that the branch line is connected to. This is probably the most reasonable definition of “remote”. This would allow a short branch line with the connection moved away from the standpipe riser within the same room to allow for better access to not have its own control valve, while a situation where the branch line is being used to feed an entirely separate connection in another room would need a control valve.

Whichever of the interpretations the contractor wants to start with, they will need concurrence from the AHJ. Keeping the lines of communication open will facilitate this discussion and help lead to a conclusion that everyone can agree with.

For the future, the NFSA will be working with the NFPA Technical Committee on Standpipe and Hose Systems to resolve the issue within the standard more clearly. We will be proposing that a statement be placed in the standard specifically saying that branch lines feeding hose connections do not need a control valve. The substantiation for the proposal will be that the valve in the branch line makes no sense. Hose connections on horizontal standpipes are not isolated by separate control valves when they are hundreds of feet away from other outlets on the standpipe, so why should smaller branch lines need to be isolated? The committee, in how they deal with the proposal (choosing to accept it or reject it), will make a statement as to which of the interpretations above are correct.

Unfortunately, this subject will not be clarified until the 2016 edition. The committee has already dealt with the proposals and comments for the 2013 edition and this subject did not come up, which means it is too late for us to get the committee to address it now for that edition. The next chance that we have will be 2016.

Upcoming NFSA “Technical Tuesday” Seminar – June 5

Topic: Acceptance Testing of Standpipes
Instructors: Karl Wiegand, E.I.T.
Date: Tuesday, June 5, 2012- 10:30 am EST

System acceptance tests are important for making sure that a newly installed system is working correctly and establishing a baseline of performance for all future system tests. This seminar will serve as a walk through for acceptance test requirements of NFPA 14.

To register or for more information, click HERE or contact Michael Repko at (845) 878-4207 or e-mail to seminars@nfsa.org.

Layout Technician Training Course (2-week course)

Fishkill, NY – October 8-19, 2012

For more information, contact Nicole Sprague using Sprague@nfsa.org or by calling 845-878-4200 ext. 149 or click HERE.

Upcoming In-Class Training Seminars

The NFSA training department also offers in-class training on a variety of subjects at locations across the country, and in recognition of the current recession has adopted a new reduced fee structure. Here are some upcoming seminars:

June 5-6	Dearborn, MI	NFPA 13 Overview
June 7	Dearborn, MI	Plan Review Procedures & Policies
June 14	Mashantucket, CT	Hydraulics for Fire Protection
July 24	Mashantucket, CT	Plan Review Procedures & Policies
July 24	Westminster, CO	Sprinkler Installation Requirements
July 25	Westminster, CO	Fire Service Mains & Their Appurtenances
July 26	Westminster, CO	NFPA 13 Update 2010

These seminars qualify for continuing education as required by NICET, and meet mandatory Continuing Education Requirements for Businesses and Authorities Having Jurisdiction.

To register for these in-class seminars, click HERE. Or contact Michael Repko at (845) 878-4207 or e-mail to seminars@nfsa.org for more information.

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Established in 1905, the National Fire Sprinkler Association (NFSA) is the voice of the fire sprinkler industry. NFSA leads the drive to get life-saving and property protecting fire sprinklers into all buildings; provides support and resources for its members – fire sprinkler contractors, manufacturers and suppliers; and educates authorities having jurisdiction on fire protection issues. Headquartered in Patterson, N.Y., NFSA has regional operations offices throughout the country. www.nfsa.org.