Seminar Title: Advanced Technician Training

Seminar Description: This program covers a number of advanced topics over a three-day period including the spacing and location of storage sprinklers, hydraulic calculations (Darcy-Weisbach, Velocity Pressures, and Hardy Cross loop analysis), fire pump sizing (for situations with multiple pumps and situations with multiple water supplies), and a variety of other advanced installation issues. Due to the advanced nature of the program, it is an excellent study session for those people seeking NICET Level III and Level IV certification. The assumption is that the participant will already know how to use the Hazen-Williams friction loss equation.

Total Instructional Time: 24 contact hours

Learning Outcomes: By the end of the program, the participant will be able to:

1. Submit input to the NFPA process on the development of codes and standards.
2. Perform hydraulic calculations for sprinkler systems where the sprinklers are not at uniform spacing.
3. Perform hydraulic calculations using the room design method.
4. Calculate friction loss using the Darcy-Weisbach method.
5. Perform hydraulic calculations using the Velocity Pressure method.
6. Layout a sprinkler system with CMSA and ESFR sprinklers with proper sprinkler spacing and location while avoiding unacceptable obstructions.
7. Layout a sprinkler system to protect a freezer/cooler.
8. Calculate the flow of water around a loop or grid using Hardy Cross loop analysis.
9. Calculate the suction pressure at a fire pump given the water supply conditions.
10. Select proper size fire pumps for situations with multiple pumps and/or situations with multiple water supplies.
11. Recognize the computer fire models that engineers use to justify the installation of sprinkler systems with variations from the prescriptive rules of NFPA standards.
12. Review work done by others and recognize the proper application of NFPA standards.

Seminar Format(s): Lecture with in-class exercises and homework.

Participant Materials: Workbook with slides from each module and in-class exercises.

Assessment Method(s): In-class exercises and homework review.