Fire Submittals

Fire Alarms: The Pennsylvania Uniform Construction Code Section requires that a permit be required for the installation of fire alarm systems. Code references for where fire alarm systems are required may be found in the International Fire Code and the International Building Code. Design and installation standards for fire alarm systems may be found in the NFPA 72 standard the National Fire Alarm Code. Special requirements may also be found in these codes and standards for fire alarm systems at protective fire rated openings, specific occupancy requirements, smoke control systems, and elevator controls. Your plans should indicate wiring methods, equipment cut sheets, specific device locations and elevations, as well as a testing procedure for final approval. Remember that the more detailed your plan submission, the more expedient the plan review process is, resulting in a quicker turnaround time with less plan review comments requiring responses. You cannot provide too much detail, but you can provide too little.

Sprinklers & Standpipes: The areas required to have sprinklers and standpipes may be found in Chapter 9 of the International Building Code and Chapter 9 of the International Fire Code. There are several standards applicable to sprinkler systems and standpipes and they are NFPA 13 Standard for the Installation of Sprinkler Systems, NFPA 13D Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes, NFPA 13E Recommended Practice for Fire Department Operations in Properties Protected by Sprinkler and Standpipe Systems, NFPA 13R Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height, and NFPA 14 Standard for the Installation of Standpipe and Hose Systems. All submittal packages should be provided a minimum of three copies with a recent water flow capacity test, a water quality review for any microbiologically influenced corrosion (MIC), equipment cut sheets, calculations, signed and sealed plan sets, design approaches, occupancy classifications, hazard identifications, and all related and required documentation. Plans shall clearly indicate the tests required by the Code and the referenced Standards for each proposed system. Remember that the more detailed your plan submission, the more expedient the plan review process is, resulting in a quicker turnaround time with less plan review comments requiring responses. You cannot provide too much detail, but you can provide too little.

Hood Systems: Hood systems fall under the International Mechanical Code. Commercial kitchen hoods require compliance with Section 507 and Chapter 9 of the International Fire Code. Commercial kitchen hoods are even required when a domestic cooking appliance is used for commercial purposes. Where commercial appliances are required by code to have a Type 1 hood then a fire suppression system complying with the International Fire Code and the International Building Code are required. Several NFPA standards are referenced with regards to the different types of permitted fire suppression systems. Carefully review all applicable sections referenced in these standards. These referenced standards are NFPA 12, NFPA 13, NFPA 16, NFPA 17, and NFPA 17A All hood systems, make up air units, and where required, fire suppressions systems shall be reviewed, signed, and sealed by a registered design professional. Plans shall be of sufficient detail to show all code required energy shutoffs, material used for duct construction, electrical wiring, gas piping, manufacturer's equipment specifications, and complete installation plans. Remember that the more detailed your plan submission, the more expedient

the plan review process is, resulting in a quicker turnaround time with less plan review comments requiring responses. You cannot provide too much detail, but you can provide too little.

Spray Booths: Spray booths as regulated by the codes falls under the requirements of the International Fire Code Section on Flammable Finishes, the International Mechanical Code Hazardous Exhaust Systems, and the National Electrical Code Section on Spray Application, Dipping, and Coating Processes and the ICC Electrical Code. In addition to the codes as referenced the following standards are also referenced NFPA 11 Standard for Low-, Medium-, and High-Expansion Foam, NFPA 12 Standard on Carbon Dioxide Extinguishing Systems, NFPA 16 Standard for the Installation of Foam-Water Sprinkler and Foam-Water Spray Systems, NFPA 17 Standard for Dry Chemical Extinguishing Systems, NFPA 17A Standard for Wet Chemical Extinguishing System, NFPA 13 Standard for the Installation of Sprinkler Systems, NFPA 33 Standard for Spray Application Using Flammable or Combustible Materials and NFPA 34 Standard for Dipping and Coating Processes Using Flammable or Combustible Liquids. The plan submission should show the complete design of the booth with required clearances clearly shown, the mechanical hazardous exhaust system requirements, the complete design of all electrical components and branch circuits with hazardous location boundaries clearly delineated, and a complete system design for the required fire suppression system. Remember that the more detailed your plan submission, the more expedient the plan review process is, resulting in a quicker turnaround time with less plan review comments requiring responses. You cannot provide too much detail, but you can provide too little.

Fire Pumps: There are basically two types of fire pumps, diesel and electric. Fire pumps are reviewed under the International Fire Code, the National Electrical Code, and the NFPA 20 Standard for the Installation of Stationary Pumps for Fire Protection. It is important to note that electrically driven fire pumps require a reliable source of power. Standard Operating Guidelines for Fire Department Operations mandates that the electrical supply to a building involved with fire be disconnected at its source. This is done by the serving utility by pulling the cutout fuses on the primary power feeding the building transformer. If your fire pump is anywhere downstream of this power source it **WILL** lose all electrical power. Therefore, to provide the code required reliable source of power you will be required to provide a separate and unique electrical service for this fire pump installation. It is permitted to come from the same set of primary feeders, but it must have its own cutout fuses feeding a fire pump dedicated transformer separate from the cutout fuses feeding the primary power to the building transformer. Electrical wiring to a fire pump must comply with NFPA 20 and NFPA 70. Remember that the more detailed your plan submission, the more expedient the plan review process is, resulting in a quicker turnaround time with less plan review comments requiring responses. You cannot provide too much detail, but you can provide too little.