

Fire Pumps – Beyond the Basics

Engineered Solutions to Hydraulic Challenges

Course Description

This interactive program will provide a framework for the discussion of options and solutions for some of the challenging hydraulic situations that an engineer will face when one or more fire pumps is installed as a part of the design for any type of water-based fire protection system. The topics will include: controlling the discharge pressure of the pump under a variety of challenging suction pressure and performance conditions, combining the challenging requirements of multiple codes and standards that frequently apply to super high rise buildings, additional requirements of NFPA 409 for aircraft hangars, electrical power arrangements for motor driven pumps and their controllers, sizing drivers for fire pumps, design of systems with multiple pumps in series, and the design of systems with multiple pumps in parallel.

Learning Objectives

At the completion of the program, the participant will be able to:

- Select an appropriate fire pump and arrangement of related equipment from a number of acceptable options in conditions where the suction supply is coming from different sources or is widely varying in pressure.
- Select an appropriate fire pump and arrangement of related equipment from a number of acceptable options in conditions where the pump needs to create a great deal of pressure at the system demand flow, but then has the potential to over-pressurize the fire protection system at churn.
- Compare and contrast the requirements from a number of overlapping codes and standards regarding super high rise buildings and determine a design solution that meets all of the applicable requirements.
- Identify the unique requirements regarding fire pumps protecting aircraft hangars in NFPA 409 that someone might not know if they only had knowledge of NFPA 20.
- Identify acceptable power arrangements for electric motor driven fire pumps.
- Select a properly sized driver for a fire pump given the system demand and a specific size fire pump.
- Identify the additional equipment and design considerations necessary for fire pumps arranged in series.
- Identify the additional equipment and design considerations necessary for fire pumps arranged in parallel.

Target Audience

People who already have a working knowledge of basic fire pump theory and terminology as well as familiarity with the basic requirements of NFPA 20.

Materials

Please bring a calculator with you that is capable of raising a number to any power (y^x key).

Professional Development Hours

A certificate of 8 CEUs will be offered. Upon completion of a post-test attendees will be awarded a certificate of attendance