

The background of the page is a collage of fire protection equipment. The top half shows a close-up of a fire alarm control panel with two circular gauges. The left gauge is white with black markings and is labeled "VIKING WATER PRESSURE GAUGE FOR FIRE PROTECTION SYSTEMS". The right gauge is blue with white markings and is also labeled "VIKING". Below the gauges are various pipes, valves, and a red fire alarm pull station. The bottom half shows a close-up of a black fire alarm control panel with a yellow handle and a label that reads "DELUGE VALVE MOD. VXD VIKING". To the right, there is a silver fire alarm pull station with a yellow handle and a label that reads "WATTS".

Viking Seminar Information Sheet

Foam Fire Protection Systems

Foam Fire Protection Systems

Seminar Description:	Through discussion, activities, and interactive labs this seminar will explore the operation and components of fixed foam solution fire protection systems. Topics covered will include an introduction to foam, concentrates, system types, foam system components, and commissioning systems.
Duration (Days):	1
Total Instructional Minutes:	420 minutes / 7 hours
Seminar Format(s):	Lecture, activity, hands-on labs, and demonstration
Participation Materials:	Participant guide with data sheets
Learning Outcomes:	Upon completion of this seminar the attendee will be able to: <ul style="list-style-type: none">■ Identify the need for a foam fire protection system in accordance with applicable codes■ Identify various types of foam systems■ Identify and describe the operation of the components of foam systems■ Differentiate between the various types of foam concentrates■ Describe the design of a foam fire protection system■ Describe recommended installation practices■ Describe the process for the inspection, testing, and maintenance of foam fire protection systems
Assessment Method(s):	Discussion and activity participation

Module 1: Introduction to Foam

Learning Outcomes:	<ul style="list-style-type: none">■ Evaluate applicable codes and standards for foam fire protection systems■ Recognize various hazards and applications that foam systems protect■ Identify various Viking foam system products
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Module 2: Foam Concentrates and Concentrate Update

Learning Outcomes:	<ul style="list-style-type: none">■ Discuss the requirements for and the development of fluorine free foams■ Detail the impact of fluorine free foams on existing systems■ Recognize the key components of foam make-up■ Understand the importance of various foam concentrates■ Identify expansion ratios of foam and their importance■ Effects of foam on combustion■ Proper storage and handling of foam concentrates
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Module 3: Foam Storage Tanks and Proportioning Components

Learning Outcomes:

- Compatibility of foam concentrates
- Identify advantages and disadvantages of various storage methods
- Recognize features and guidelines of specific foam storage tanks
- Identify appropriate types of proportioning devices
- Identify proper location of proportioning devices
- Determine pipe sizing for concentrate line
- Explain factors in foam skid sizing

Module 4: System Types

Learning Outcomes:

- Discuss appropriate system types for foam application
- Describe operating principles for each system type

Module 5: Discharge Devices

Learning Outcomes:

- Identify non-aerating low expansion discharge devices
- Identify aerating low expansion foam discharge devices
- Identify high expansion foam discharge device

Module 6: Proportioning Methods

Learning Outcomes:

- Describe the importance of proper proportioning device selection
- Identify proportioning methods
- Express the importance of the correct proportioning method
- Identify the correlation between proportioning devices and specific systems

Module 7: Concentrate Control Valves and Trims

Learning Outcomes:

- Identify appropriate concentrate control valve (CCV) and trim package
- Explain benefits of CCV against hydraulic actuated ball valve
- Determine need for priming connection

Module 8: Commissioning of New Systems

Learning Outcomes:

- Illustrate proper preparation ahead of acceptance testing (hydro and flush)
- Recognize proper acceptance testing procedures (NFPA and manufacturer)
- Properly fill a bladder tank

Module 9: Inspection, Testing, and Maintenance

Learning Outcomes:

- Recognize proper ITM resources/references (NFPA and manufacturer)
- Evaluate condition of system piping and equipment per NFPA frequencies (inspection)
- Identify and conduct required system component testing frequencies (testing)
- Identify and conduct required system maintenance frequencies (maintenance)

Module 10: Transitioning Existing Low Expansion Foam Systems

Learning Outcomes:

- Discuss the background of Synthetic Fluorine Free Foam (SFFF)
- Identify the impact of SFFF on foam system components
- Explain the FM product approval process and phases
- Identify the change-out challenges for SFFF

