



Foam Technician Level I Ethanol & Crude Oil In Transit

Cottrell Associates - National Foam
Seminar Series

Foam Technician Level I

Foam Ops. At Ethanol And Crude Oil Transportation Events
Six contact hours (five hr. classroom - one hr. hands on making)

I. Introduction To Crude Oil, Ethanol & Ethanol/Gasoline Blends

- liquid fuel (class B) origins and characteristics.
- liquid fire behavior - fires & spills.
- ethanol / crude / gasoline storage, distribution and transportation.

II. Firefighting Foams In General

- foam concentrate storage and handling.
- class A and CAFS interactions on class B fuels.
- class B foam: AFFF and AR concentrates, solutions and finished foam.
- managing environmental impact and respect for public's right to know.
- logistics support for ethanol/gasoline and crude spill firefighting

III. Foam Proportioners & Appliances (bring pictures of yours)

- Identifying and understanding your equipment (basics)
- discuss low and medium expansion foam application logic.
- managing safety and security at un-ignited crude/ethanol and gasoline/ethanol spills.
- demonstrate foam application techniques and appliances from 12 to 500 gpm.



Program content contributed by flammable liquid fire protection specialists, industrial fire fighting instructors, industrial fire protection engineers, fixed system design consultants and fire apparatus design professionals from throughout the fire protection industry.

Instructor:

Jim Cottrell, of Cottrell Associates, Inc. has been a National Foam factory agent and product development consultant since 1988. His [Combat Support Products](#) division manufactures specialty foam firefighting equipment, conducts high hazard risk assessments and special ops. training for industrial, marine and municipal fire markets. foamguy@mac.com

Jim chairs the IFSTA Foam Technical Committee and a member of the Underwriters Laboratories, Foam Standards Technical Panel. He has written extensively on the subject of firefighting foam chemicals, large caliber fire stream, water supply management and foam applications for municipal and industrial firefighting.

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Foam Technician Level II

Combat Engineering

Spills & Fires - Ethanol & Crude Oil

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Foam Technician Level II - Tech Level I is prerequisite

Advanced Foam Ops. At Ethanol And Crude Oil Transportation Events

Six contact hours (five hr. classroom - one hr. hands on making)

One hour review of Tech I terms and concepts

I. Foam Concentrate Proportioning

- portable line eductors / self-inducting master streams
- understanding onboard apparatus and marine foam firefighting systems.
- jet-ratio and portable ATP systems (around the pump proportioning)
- balanced pressure systems (National Foam Servo and Husky systems)
- direct injection systems (Hale - FoamPro - Rosenbauer - Waterous)

II. Quality Control

- determining your foam concentrate's fitness for use
- testing apparatus foam systems (kept simple)

III. Combat Engineering - Ethanol, Processed Hydrocarbons and Crude

- spill fire calculations (support logistics - foam and water)
- storage tank fire calculations (support logistics - foam and water)
- water resources (land & marine exposures)
- foam concentrate movements, transfer and long term supply logistics
- managing and mitigating environmental issues (public information pointers)

IV. Developing Effective Foam & Water Streams

- principals of real world fire stream reach
- big water hydraulics - five, six, eight-inch and larger supply hose systems
- big water pumps and appliances
- coordinating land and marine recourses



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Foam Technician Level III Combat Engineering - Racks, Tracks & Tanks

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Foam Technician III - Two Days

Thirteen contact hours - Should have a cooperating industrial partner, IE., Fuel Terminal, Airport Tank Farm, Rail Yard or Pipeline Terminus - Prerequisite training Tech I or II Requires a one day facility visit by our staff, at least six weeks in advance of program date to prepare facility specific elements of the program.

Two hour review Tech. I & Tech. II

I. Introduction to fixed and semi-fixed foam fire protection systems with emphasis on fire department activities at protected and unprotected sites.

- Tour an operating fuel terminal keying on risks associated with fire events at its storage tank, rail, truck or marine loading racks.
- Problem solving exercises dealing with logistic support for systems challenged loading racks, pipe alleys, marine pier and or storage tank fires and spills.
- Develop placement strategies at visited site for foam monitor and cooling streams, considering site's reach and range complications caused by terrain, proximity to public population, prevailing weather and or the initial fire cause circumstance.



INSTRUCTORS

Steve DiLuigi brings thirty-plus year experience in systems training, and special purpose industrial fire apparatus design. Steve will speak on FD operations at systems protected facilities.

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