

YORK COUNTY FIRE SCHOOL



COMBUSTIBLE LIQUIDS PIT USAGE MANUAL

First Edition 10/2010



York County Fire School
Combustible Liquids Pit Usage Manual

FORWARD

The purpose of this document is to establish a safe and consistent guide for the operation of the Combustible Liquids Pit (CLP). Safety for all individuals shall always be the overriding criteria with any operation of the CLP. If there is any doubt regarding the safety of any operation with the CLP, all activities shall be terminated and the safety of the operation reviewed and appropriate safety interventions put in place before activities resume.

All individuals using the Combustible Liquids Pit shall refer to **NFPA 1403 - Standard on Live Fire Training Evolutions - Chapter 8** for instructional and safety concerns. No flammable or combustible liquids are to be brought on site. All liquid fuels used at the facility will be provided by the Fire School and dispensed from containers provided by the Fire School.

Individuals using the Combustible Liquids Pit shall make every effort to conduct the operations in as environmentally responsible manner as possible. This is primarily related to the uncontrolled release of fuels and other agents, such as foam, to areas that are located outside of the CLP. **All fuel spills will be addressed immediately, up to and including summoning Haz-Mat 91 for spill control.** A small amount of fuel spill control equipment will be stored in the extinguisher shed adjacent to the CLP for immediate use on small spills.

Smoke is also an environmental concern. While a fire in the CLP is expected to produce a column of smoke, considerations shall be made for wind direction and other factors that may cause concern. If the smoke from the CLP fires is affecting the property, operations or road ways of any neighboring entity, operations at the CLP shall be terminated until the conditions causing the problem have ceased.

By using the Combustible Liquids Pit at the York County Fire School you are acknowledging familiarity with this document; agreeing to adhere to the policies contained herein; and you also agree to accept direction from the employee's and/or facilitators assigned to oversee your evolution.

In addition to the policies and procedures set forth in this document, the individuals using the CLP shall abide by the policies and procedures set forth by the York County Fire School, Pennsylvania State Fire Academy, and the Educational Training Agency (ETA).

Failure to comply with the guidelines set forth in this document may result in the loss of the privilege to utilize and train at the York County Fire School.

It is suggested that each organization obtains a copy of this document through the Fire School and maintains it as a reference. Periodically, this document will be evaluated for possible changes and updates, therefore the most current Policy and Procedure Manual will be available at the Fire School and through our website.



York County Fire School
Combustible Liquids Pit Usage Manual

OPERATIONAL GUIDELINES

1. Live fire training may be conducted in accordance to the following time frames. Daylight sessions (including weekends) shall be limited to eight (8) hours and conducted between the hours of 08:00 and 17:00. Evening sessions shall be limited to four (4) hours and conducted between the hours of 18:00 and 22:00. **ALL FIRES IN THE CLP WILL BE EXTINGUISHED BY 22:00 HOURS, NO EXCEPTIONS.**
2. Confirmation scheduling will be based on availability of the facility, appropriate supervisory staff, and the absence of any other prescheduled program, class, or activity that may conflict with the use of the CLP or its surrounding area.
3. All training operations conducted at the Combustible Liquids Pit shall either be under the supervision of:
 - a. State Fire Instructors during a Pennsylvania State Fire Academy accredited class.
 - b. Instructional personnel from another recognized training institution.
 - c. Trainers from a company engaged in the control and extinguishment of combustible liquids fires.
4. Items required for accredited level training activities shall be the following:
 - a. Proof of Worker's Compensation and general liability insurance of not less than one (1) million dollars. This can be accomplished when speaking to the York County Fire School Coordinator during scheduling.
 - b. Rehabilitation supplies (appropriate for the weather conditions expected during training)
 - c. **MEDICAL SUPPLIES AND PERSONNEL WHO ARE EMT-B CERTIFIED** are required to be onsite during live fire exercises. If a BLS unit cannot be obtained to standby during the training evolutions, adequate BLS equipment to include medical/trauma bags, AED and oxygen delivery equipment at a minimum must be provided. The onsite certified EMT-B is **NOT** permitted to be involved in the live fire evolutions. Proof of certification is required.
 - d. All necessary equipment needed to run the training evolutions such as apparatus, hand tools, rope, lights, etc.
5. All personnel, including Instructors, within 50 feet of the Combustible Liquid Pit must be in full PPE. This zone will be referred to as the **HOT ZONE**. At no time will person(s), not properly protected, be permitted in the **HOT ZONE** during training activities.
6. Individual fire companies will be responsible for the condition of all PPE worn by their personnel participating in the training session. All members **SHALL** be covered through their respective emergency services department insurance policies including Worker's Compensation.
7. Facial hair shall be in compliance with the PSFA established policy for all personnel participating in live fire training evolutions.



York County Fire School
Combustible Liquids Pit Usage Manual

8. **All PPE** worn shall be in compliance with all applicable testing standards for Structural Fire Fighting Protective Clothing at time of purchase and in good working condition. An inspection of all participants, including instructors, PPE and SCBA shall be conducted. The PPE inspection and SCBA forms that are to be used can be obtained online or through the Fire School.
9. Protective clothing/equipment necessary for combustible liquid fire training shall consist of the following items as a minimum:
 - a. **Helmet** that is designed and constructed for structural fire suppression conditions shall be worn and used in compliance with manufacturing recommendations and in compliance with applicable testing standards.
 - b. **Protective Hood** that is designed and constructed for use in structural fire suppression conditions and is in compliance with applicable testing standards.
 - c. **Turnout Coat/Pants** designed and constructed for use in structural fire suppression conditions and is in compliance with applicable testing standards.
 - d. **Boots/Footwear** designed and constructed for use in structural fire suppression conditions and is in compliance with applicable testing standards.
 - e. **Gloves** designed and constructed for use in structural fire suppression conditions and are in compliance with applicable testing standards.
 - f. **Eye Protection** designed and constructed for use in structural fire suppression conditions and is in compliance with applicable testing standards. This item shall be worn and used in compliance with manufacturer instructions.
 - g. **SCBA with a working PASS system** designed and constructed for use in structural fire suppression conditions and is in compliance with applicable testing standards.
10. Participants dress code for live fire evolutions shall be the following, worn under the required PPE as described above.
 - a. Long pants, no shorts will be permitted
 - b. Long sleeved shirt and/or sweatshirt
 - c. Socks
 - d. A change of clothing is recommended
11. The Combustible Liquids Pit shall have a minimum of twelve to fifteen inches of water in its base **before** any combustible liquid is added.
12. There shall be a minimum of nine inches or roughly three (3) to four (4) courses of brick above the combustible liquids surface and the top of the CLP ("free board"). This is to prevent overflow and spillage and to assure the confinement of the fire.



York County Fire School
Combustible Liquids Pit Usage Manual

13. Hose Line requirements for a combustible liquids fire will be a minimum of an inch and three quarter (1 ¾) hose line capable of flowing 125 GPM through an approved NFPA nozzle. No less than three (3) hose lines shall be used during the CLP training operations.
 - a. At least one charged hose line shall be used as a safety line and shall be staffed whenever the attack lines are in use. The primary function of the safety line shall be to provide for the rescue and/or escape of any student in danger during the CLP operation.
 - b. Two (2) 20lb dry chemical fire extinguishers shall be in place as an additional, appropriate safety measure; however, these will not replace the safety line.
14. Water for the hose lines shall be supplied through a firefighting vehicle equipped with a pump of adequate capacity to supply the required GPM's at the appropriate operating pressures. This unit shall have a water tank capacity of no less than 500 gallons and shall be supplied with a constant water flow provided by the fire hydrants on the training grounds. The pump operator shall maintain the booster tank in full condition ready to use as a back-up water supply if anything should happen to the water supply from the hydrant system.
15. The York County Department of Emergency Services communications center shall be contacted if York County radio system is to be used during the live fire exercise. An approved training talk group shall be requested. It is understood that this talk group **WILL NOT BE MONITORED** by the communication center. York County will be notified when the live fire drill is concluded and the training talk group is no longer needed.

**LIMITATIONS FOR CONDUCTING TRAINING DUE TO WEATHER
CONDITIONS**

1. Thunderstorms and severe weather conditions shall be monitored by the Lead Instructor if such conditions are predicted in the York County area during training sessions. If a severe thunderstorm warning is issued for the immediate area, training will be paused and students taken to a place of safe refuge as determined by the lead instructor and the YCFS Facilitator.
2. If lightning strikes are occurring around the area of the YCFS, training will be suspended and students taken to a place of safe refuge as determined by the lead instructor and the YCFS Facilitator.
3. The lead instructor will use good judgment in suspending training at the YCFS for any other weather conditions that may present its self and possibly cause harm to the students.

SUSPENSION OF TRAINING FROM DECEMBER 15TH TO MARCH 15TH

The York County Fire School keeps the safety of all emergency services personnel as our number one priority. One safety issue is the icing conditions on the training grounds. During the winter months icing conditions present a danger to students and equipment. Slips and falls as well as appliances being damaged due to ice increases the chance of firefighter injuries. Because of this avoidable hazard the York County CLP will not have evolutions conducted between **December 15 and March 15** that involve water flow. Emergency services personnel are welcome to continue to utilize the CLP during this time frame for **Simulated Scenario Training evolutions**; however water flow will not be permitted. The York County Fire School will consider, on a case by case basis, training requests in the event the weather is non-typical and warm temperatures are present during the water flow restricted time period.



York County Fire School
Combustible Liquids Pit Usage Manual

USE OF FOAM AND OTHER AGENTS

1. All types of foam and/or encapsulating agents that are **NFPA/UL** approved for combustible liquids shall be allowed.
2. Foam and/or other agents shall be used with due care to confine the use of such product to the Combustible Liquids Pit.
3. Any foam or agent that is inadvertently spilled on the fire ground shall be cleaned up or left to degrade. Foam or agents shall not be “washed or hosed” or otherwise treated in a fashion that may cause high concentrations of material to flow into nearby water ways.
4. If the foam or agent being used is considered to be an environmental hazard, appropriate clean-up measures shall be promptly conducted.
5. Dry Chemical fire extinguishers may be used independently or in conjunction with foam and/or water for fire control operations at the Combustible Liquids Pit.

FUEL MATERIALS AND MANAGEMENT

1. The fuel to be used will be supplied by the Fire School. **The use of waste oil or used oil products are strictly forbidden.**
2. A small amount (less than one (1) quart) of gasoline may be used to initiate the combustible liquid fire.
3. The fuel delivery rate is **approximately 20 gallons per minute**; this may vary slightly with the amount of fuel in the main storage tank. Testing has established that approximately 20 gallons of fuel will provide a full intensity fire for approximately two (2) to three (3) minutes. Thus, no more than 80 gallons of fuel should be used during any individual burn.
4. The fuel control valve shall be staffed at all times during the filling process.
5. The fuel control valve shall be closed prior to ignition and remain closed during the training evolution.
6. The main fuel supply valve shall be kept off and locked at all times when the Combustible Liquids Pit is not in use.
7. When used, the tank valve located at the upper level of the Fire School shall be unlocked and placed into the open position. All Instructional and Safety personnel shall be aware of this valve’s operation and location and should be able to use the valve to control any unwanted fuel discharge or leak.
8. At the termination of the training evolution, all valves shall be placed into the closed position and locked to prevent unwanted discharge.



York County Fire School
Combustible Liquids Pit Usage Manual

9. At the termination of the training evolution, any residual fuel shall be “burned off” to prevent any fuel pooling and becoming a fire hazard.
10. The drain valve located at the north end of the Combustible Liquids Pit shall **only be used by the Fire School employees.**

YORK COUNTY FIRE SCHOOL FACILITATOR

1. The YCFS Facilitator shall be an onsite representative of the YCFS during all live fire/smoke training. This representative shall be the liaison between the instructional staff and the Fire School during the training period. The YCFS Facilitator:
 - a. Shall be provided by the YCFS for the duration of the training program.
 - b. Shall open and close the training grounds.
 - c. Shall handle any on site requests of the instructional staff regarding facility issues.
 - d. Shall contact the YCFS Coordinator or their designee if any issues arise during the exercise.
 - e. Shall conduct a post burn inspection and confirm any damage, if found, with the lead instructor.
 - f. Shall NOT make live burn entries and is not considered one of the instructional staff.
 - g. Make sure that all appropriate paperwork, regarding the live fire training has been filled out and submitted to the Fire School Coordinator.

CLEAN UP, RESTORATION AND NOTIFICATION

1. The area around the Combustible Liquids Pit shall be cleaned up after each use by the department, company, organization or class as described in the York County Fire School Policy and Procedure Manual under GENERAL INFORMATION.
2. Any damage to the Combustible Liquids Pit and/or the areas adjacent to it shall be reported to the Fire School Coordinator as described in the York County Fire School Policy and Procedure Manual under GENERAL INFORMATION.
3. Any incident, injury, or “near-miss” that occurs during the use of the Combustible Liquids Pit shall be reported to the Fire School Coordinator as described in the York County Fire School Policy and Procedure Manual under the INCIDENT/INJURY/NEAR-MISS REPORTING POLICY.