

Bucks County Community College
Department of Public Safety Training and Certification



Bucks County Community College
Department of Public Safety Training and Certification
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B.C.P.S.T.C. BURN PROP POLICY AND PROCEDURES

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Operations and Procedures for Structural Firefighting Prop

1.0 Purpose

1.1 The purpose of this document is to establish standard guidelines for conducting on-site training fires, in accordance with NFPA 1403 and all existing Bucks County Public Safety Training Center (BCPSTC) procedures, where applicable. This is to allow for safe and effective fire training and preservation of the structural integrity of the new structural firefighting prop.

2.0 Scope

2.1 This policy applies to all persons for all applications and uses of the BCPSTC structural firefighting prop.

3.0 Outcomes

3.1 Structural burn prop will be properly used and well-maintained
3.2 There will be a high standard of safety held for all operations of any type in and around the prop.

4.0 Responsibilities

4.1 It is the responsibility of any and all users of the burn prop to follow the procedures and policies set forth in this document

5.0 Definitions

None Required

6.0 References

- 6.1 NFPA 1403: *Standard on Live Fire Training Evolutions*
- 6.2 NFPA 1001: *Standard for Fire Fighter Professional Qualifications*
- 6.3 NFPA 1142: *Standard on Water Supplies for Suburban and Rural Fire Fighting*
- 6.4 NFPA 30: *Flammable and Combustible Liquids Code*
- 6.5 NFPA 1971: *Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*
- 6.6 NFPA 1981: *Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) For Emergency Services*



- 6.7 NFPA 1975: *Standard on Station/Work Uniforms for Fire and Emergency Services*
- 6.8 NFPA 1982: *Standard on Personal Alert Safety Systems (PASS)*
- 6.9 Office of the State Fire Commissioner Pennsylvania State Fire Academy: Structural Burn/ Live Fire (SBS) Policy No. 2006-02 – Revised May 14, 2008
- 6.10 29 CFR 1910.134: Respiratory Protection

7.0 General Usage

- 7.1 Request for Use of the Prop
 - 7.1.1 Any use of this prop by any department, agency, or persons must first be registered and approved by the Bucks County Public Safety Training Center.
 - 7.1.2 Once approved, all training and evolutions must follow appropriate NFPA standards and BCPSTC guidelines to maintain a safe and positive training environment.
- 7.2 Prerequisites for Instructors
 - 7.2.1 All instructors must meet state qualifications for state structural burns (*See PSFA Structural Burn/Live Fire (SBS) Policy Section1,*).
 - 7.2.2 All instructors must also attend BCPSTC’s SBS Train the Trainer prior to teaching any class which utilizes the burn prop.
 - 7.2.3 Instructors must wear personal protective equipment and SCBA. This PPE and SCBA must be in good repair and meet appropriate OSHA, NFPA, and NIOSH standards.
 - 7.2.4 All assisting instructors must also be an accredited Suppression-SBS Instructor.
 - 7.2.5 Only accredited-SBS Instructors will direct and supervise the participants of live-fire activities.
- 7.3 Prerequisites for Students
 - 7.3.1 Prior to being permitted to participate in live fire training evolutions, the student shall provide documentation that



they have received training to meet the job performance requirements for Fire Fighter I in NFPA 1001, *Standard for Fire Fighter Professional Qualifications*, related to the following subjects:

- 7.3.1.1 Safety
- 7.3.1.2 Fire behavior
- 7.3.1.3 Portable extinguishers
- 7.3.1.4 Personal protective equipment
- 7.3.1.5 Ladders
- 7.3.1.6 Fire hose, appliances, and streams
- 7.3.1.7 Overhaul
- 7.3.1.8 Water supply
- 7.3.1.9 Ventilation
- 7.3.1.10 Forcible entry
- 7.3.2 Students participating in a live fire training evolution who have received the required minimum basic training from anywhere other than the authority holding jurisdiction shall not be permitted to participate in any live fire training evolution without first presenting prior written evidence of having successfully completed the prescribed minimum training to the levels specified above
- 7.3.3 Any participant NOT enrolled as a student must complete the Notice of Official Association located in appendix i.

7.4 Failure to Meet Policies

- 7.4.1 Failure of any department, agency, or persons (including students and instructors), to adhere to the standards set herein will result in firm disciplinary action as described in the BCPSTC User Handbook.

8.0 Use of the Prop for Live Burns

8.1 Preparation for Instructors

- 8.1.1 Before performing burn operations, report to the on duty staff and burn supervisor to review your lesson plan.



- 8.1.2 Arrive at least 30 minutes early to prepare the building and set up hose lines. Excelsior and untreated pallets are the only allowable burn material. Burn material must be stored only in the designated areas outside the burn prop. Burn material in the burn rooms should be stored up off the floor. Flares shall be used to light fire. Instructor shall take responsibility to remove all slag, trash, and flare remains from the building at the end of the exercise. To prevent damage to the floor, flares should also not be placed on the floor of the burn room at any time.
- 8.1.3 Helmets or hard hats are required at all times inside the building and anywhere on the ground except for designated areas.
- 8.1.4 Prepare the appropriate amount of burn material for the training session. *See sections 8.3.7 and 8.3.8.*
- 8.1.5 The use of flammable or combustible liquids is STRICTLY prohibited in all areas of the burn prop.
- 8.1.6 Pre-position back-up lines and instructor safety lines
 - 8.1.6.1 All attack and back-up lines must be capable of delivering a minimum of 95 gallons per minute
- 8.1.7 The instructor-in-charge shall assign the following personnel:
 - 8.1.7.1 One instructor to each functional crew, which shall not exceed five students
 - 8.1.7.2 One instructor appointed as the Safety Officer for all evolutions
 - 8.1.7.3 One instructor to each backup line
 - 8.1.7.4 Additional personnel to backup lines to provide mobility
 - 8.1.7.5 One additional instructor for each additional functional assignment
 - 8.1.7.6 There must also be a burn supervisor present to oversee all evolutions and training. (His authority stands over all)



8.1.8 Safety Officer:

- 8.1.8.1 Must be an accredited Suppression-SBS Instructor
- 8.1.8.2 Will ensure the lead instructor has complied with all the standards of this policy
- 8.1.8.3 Will observe and record any unsafe acts, minor or major
- 8.1.8.4 Will hold the higher authority when deciding if a situation is too unsafe to continue
- 8.1.9 Support Personnel (apparatus operators, rehab, EMS standby, etc)
 - 8.1.9.1 Shall not be a student nor counted as an Instructor
 - 8.1.9.2 Must be trained and competent in his or her expertise
 - 8.1.9.3 Must wear PPE appropriate to their duties

8.2 Class Preparation and Organization

- 8.2.1 Checklist Pre- Burn (*Appendix II*), *Participants' Prerequisites (section 7.3)*, *PPE& SCBA inspection sheets (Appendix IV)*, *Notice of Official Association (Appendix I)* and command chart must be completed and submitted to the burn supervisor prior to evolution. Assign students to teams and issue accountability that must be kept at all times while at the Training Center.
 - 8.2.1.1 Accountability procedures must allow the lead instructor or other observers to, at any given point; determine the name and approximate location of each participant and assistant instructors.
- 8.2.2 Drinking water must be available at all times
- 8.2.3 There should be appropriate emergency medical services available on the premises
- 8.2.4 Lead instructor must complete a preliminary briefing and walk-through with the assisting instructors to explain the evolutions and objectives to be met.



- 8.2.5 Instructors must lead the students through a preliminary briefing to explain expectations and objectives including establishing a procedure for letting instructors know of any pre-existing circumstances that may hinder student performance. This briefing must then be followed by a walk-through of the burn prop to explain layout, exits, and functioning of any doors and windows.
 - 8.2.6 All student and instructor PPE and SCBA must be inspected and documented that it meets the appropriate standards prior to the start of any burn operations. The documentation must then be submitted to the burn supervisor (Appendix IV).
 - 8.2.6.1 As part of appropriate PPE, all students and instructors must wear a long sleeve shirt and long pants
 - 8.2.6.2 All students and instructors must meet the facial hair policies, Per U.S. law 29 CFR 1910.134, PSFA and BCPSTC. (Not more than a 24hr growth and no hair that impedes the seal.)
 - 8.2.7 Establish the standards for evacuation and emergency procedures in case of unprecedented circumstances.
- 8.3 Evolutions
- 8.3.1 Per NFPA 1403, no more than two live burns meeting the standards set by the policies for fixed facility is to be held within the structure at a time. (Two additional instructors will be needed for the second burn)
 - 8.3.2 There must be a charged back-up line manned by an instructor staged in the burn region during all operations, including ignition and evolution.
 - 8.3.3 No live victims are to be used during any live-fire evolution
 - 8.3.4 No pallets on excelsior-only racks
 - 8.3.5 Temperatures must be monitored and cannot exceed the recommended range.



- 8.3.5.1 The building is equipped with a temperature monitoring system
- 8.3.5.2 An alarm horn will sound when the room temperature exceeds 800°F at the ceiling and/or 600°F at three feet height. All students are to be removed from the room and no students shall be allowed to enter the room. The instructor must take the appropriate action to reduce the temperature to an acceptable level.
- 8.3.5.3 The evolution may continue only after steps have been taken to successfully reduce the temperature in the room.
- 8.3.6 Fires shall not be located in any designated exit paths.
- 8.3.7 Excelsior-Only Smoke Burns
 - 8.3.7.1 Take care not to over soak the excelsior during the exercise
 - 8.3.7.2 Not more than 1/3 of a bale of excelsior may be used for each burn activity. Excelsior should be fluffed on the burn rack and ignited several minutes before the students are prepared to enter. This ensures that the proper simulation of an interior structural fire is presented to the student.
 - 8.3.7.3 Keep racks at least 18 inches from the walls. Temperatures no higher than 500°F to 600°F should be maintained during training evolutions in general burn areas.
- 8.3.8 High Temperature Burns, Excelsior and Pallets
 - 8.3.8.1 Fires shall be built only on the burn trays.
 - 8.3.8.2 When conducting burn evolutions, fuel load shall be limited to three pallets in a pyramid and a ¼ bale of excelsior. (see appendix V) Temperatures should not exceed 800°F
 - 8.3.8.3 Burn trays shall be kept no less than 18 to 24 inches from the wall and shall be moved around the room periodically.
 - 8.3.8.4 One window in the burn room shall be opened sufficiently enough to allow air into the room.



- 8.3.8.5 Burn room doors should not be propped open at any time due to the possibility for structural damage to the unprotected areas outside the burn rooms
- 8.3.8.6 It is the responsibility of the Instructors and Safety Officer to monitor student exertion levels and act appropriately.
- 8.3.8.7 Instructors/Ignition Officer shall rotate out of the building at the end of each evolution and rest during the next evolution to allow cool down of PPE and body temperature, and to rehydrate. This should be one evolution in the building and then one evolution out of the building for the completion of the session.
- 8.3.8.8 Rebuilding fires that involve adding more pallets in pyramid styles to the burn rack. At no time should the fire load exceed 3 pallets including the sum of all unburned portions of pallets.
- 8.3.9 A participant may be removed from training operations for the following reasons:
 - 8.3.9.1 The participant voluntarily removes themselves
 - 8.3.9.2 If allowing him or her to continue would pose an unnecessary risk to the participant or crew. (Authorized by Lead EMT, Lead Instructor or Burn Supervisor.)
 - 8.3.9.3 The participant visits the rehab area for a longer than expected amount of time more than two times
- 8.4 Post Burn Debriefing and Clean-Up (Appendix III)
 - 8.4.1 Allow about 30 minute for debriefing and clean-up.
 - 8.4.2 Check accountability of all participants and instructors.
 - 8.4.3 Perform a debriefing with participants and instructors.
 - 8.4.4 Do not wash down the inside of the building. Sweep up debris from the floors and the stairways, and put it on the upper excelsior burn rack to dry out for the next burn. Use a squeegee to push any remaining water to the scuppers from all of the floors. Be sure to clean the stairways.



- 8.4.5 Wash down the area outside the building only when temperatures are above freezing. Any waste material outside of the building should be scooped up and placed in the designated area. Check the storm drains and remove any debris that might clog the drains.
- 8.4.6 Drain the standpipe/sprinkler by opening all the valves and removing caps. Leave the valves open with the caps removed.
- 8.4.7 Clean and return all equipment to its normal storage place.
- 8.4.8 Breathing apparatus used shall be washed/cleaned, cylinders recharged, and thoroughly inspected. Any out-of-service equipment shall be tagged stating the problem clearly to facilitate appropriate repair. The tag shall be signed by the instructor.
- 8.4.9 Close and secure the building doors and windows before departure.
- 8.4.10 A post-burn final check (Appendix III) of the burn prop must be completed and any damage to the prop must be noted. This final check along with the print out from the building's temperature monitoring system will be immediately filed in a specific folder for each burn session. Any additional paperwork will be given to the Burn Supervisor for his final report.

9.0 Checklists

- 9.1 See Appendices for appropriate checklists and forms

10.0 Required Maintenance Guidelines

- 10.1 Burn room roofs are generally designed to carry 100 lbs/square foot
- 10.2 Interior decks are generally designed to carry 100 lbs/square foot



- 10.3 Do not exceed sustained temperatures of 500°F to 800°F during training evolutions in the burn areas (Temperatures will be monitored and a monthly report will be generated and issued to governing agencies.)
- 10.4 Do not attempt to cool panel surfaces following fire extinguishment
- 10.5 Note that continued use of smooth bore streams on most linings will result in surface erosion
- 10.6 Room 104 is the only room designated for foam and smooth bore use.
- 10.7 NEVER use flammable or combustible liquids in burn rooms. These materials compromise the integrity of the insulating lining and the structural integrity of the building
- 10.8 Be conscientious with regard to required routine maintenance

APPENDIX I

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Notice of Official Association

I _____ have given _____,
(Print Chief operating or Executive Officer Name) (Print Fire Fighters Name)

who is NOT enrolled as a student, approval to participate in the Structural Burn
Program hosted by the _____, on
(Print Fire or Ambulance Company Name)

_____, to act in the capacity of:
(Print Activity Date(s))

- Rapid intervention Team Member
- Pump Operator or other Apparatus Operator
- Exterior Support Person
- Medical Technician or First aid Provider
- Other (Explain): _____

Authorizing Officer Signature

Date

Last Revised: January 30, 2009



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APPENDIX II

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Lead Instructor's Pre-Burn Operations Checklist

I. SITE INSPECTION

(See page 4 to record comments)

- Building is structurally stable:
 - Burn room panels in operable shape (no cracks, protruding screws, etc)
 - All windows and doors are functional
 - Roof scuttles, automatic ventilators, mechanical equipment, lighting equipment, manual or automatic sprinklers, and standpipes are functional
- Adequate supply of burn material
 - Stored in designated areas outside the building
 - No combustible or flammable liquids
 - No contaminated materials
- Adequate water supply
 - Two sources available
 - Sufficient hose length and diameter for area of fire involvement
- Floor plan for briefings
- Unnecessary inside and outside debris removed
- All extraordinary exterior and interior hazards removed
- Staging area for EMS with easily accessible entrance and exit

II. PRIOR TO BURN

- Site inspection completed
- Documentation of basic training collected from students
- Student and Instructor PPE & SCBA inspected and documented
 - Forms collected
- Notice of Official Association* collected from all non-enrolled participants
- Plan of activities
 - Which rooms are to be used
 - Location of all students and instructors during each evolution



III. SELECTION OF INSTRUCTORS

(List names below)

Lead Instructor: _____

Assistant Instructors: _____

Safety Officer: _____

Burn Supervisor: _____

IV. NOTIFICATIONS

- BCPSTC Facilitator
- Burn Supervisor
- Students
- Instructors
- Safety Officer

V. BRIEFINGS

- Supervisor
 - Plan of activities
 - How activities will be completed
 - Walk through of building
- Assistant Instructors
 - Plan of activities (including crew and instructor assignments)
 - How activities will be completed (including safety rules)
 - Walk through of training structure
 - Evacuation signals (explained and demonstrated)
 - Accountability
 - Rehab procedures
- Students
 - Plan of activities (including crew and instructor assignments)



- How activities will be completed (including safety rules)
- Walk through of building
- Evacuation signals (explained and demonstrated)
- Accountability
- Rehab procedures

VI. BURN GROUND PREPARATION

- Attack lines
 - Supervised by qualified personnel
- Back-up lines
- Safety lines
- Danger Zone marked
- First Aid Equipment
 - Rehab area established and clearly marked
- Apparatus identified

VII. PERSONNEL

- All have adequate basic training
- All have full protective clothing and SCBA
 - Adequate SCBA air volume
 - All equipment properly donned
- Personnel accountability system in place
- All participants in good physical shape and health

By signing below, the Lead Instructor and the Safety Officer are verifying that the above items are in place and in order. Any questions, problems, or concerns, should be addressed with the Burn Supervisor.

_____ Date: _____
Signature of Lead Instructor

_____ Date: _____
Signature of Safety Officer



Site Inspection Comment Sheet

Location		Comments
Burn Rooms	101	
	102	
	103	
	104	
	201	
	202	
	203	
	301	
Ventilation Prop		
1st Floor Maze		
2nd Floor Maze		
Tower & Platform		
Basement Simulator		

Burn Supervisor's signature

Facilitator's signature



In addition to the Instructor’s Checklist, the following will be verified and signed by the Burn Supervise prior to beginning any burn operations:

STRUCTURAL BURN SESSION

Date: _____

Building: _____

Lead Suppression Instructor: _____

Who preformed these tasks?

PPE Inspection Checklist _____

Instructor Briefing _____

Student Briefing _____

Name of Safety Officer (Instructor) _____

Building Walkthrough with BCCC Manager Complete _____

Water Supply Established (GPM Flow criteria) _____

Emergency Medical Services (name) _____

Appropriate Number of Attack Lines Established _____

Safety Lines in Place (Each Division) _____

Rapid Intervention Team (RIT) in Place _____

GO or NO-GO _____

Lead Instructor/ Release of BCCC Supervisor – Date: _____

Lead Instructor Signature: _____

Burn Supervisors Signature: _____

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APPENDIX III

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Lead Instructor’s Post-Burn Operations Checklist

I. SITE POST INSPECTION

(See page 3 to record comments)

Accountability check

__ Participants

__ Instructors.

Burn debriefing completed

__ Participants

__ Instructors

Building Post check:

— Burn room panels in operable shape (no cracks, protruding screws, etc)

— All non-burned materials cleaned and put on upper excelsior rakes.

— All rooms and floors clean of debris

— All windows and doors are functional and secured

— Roof scuttles, automatic ventilators, mechanical equipment, lighting equipment, are closed and turned off.

— Sprinklers and standpipes are drained.

Grounds:

— All equipment cleaned, inspected and returned to its normal storage place

— All litter and debris cleaned up and put in the designated area.

— Wash down outside area when temperature will not freeze.

— Clean all drains and scuppers of debris

Water supply

— Drain hydrant system

— Secure all engines and pumps to their normal place.

— Return all hose after cleaning and inspection to their normal place



- S.C.B.A.
 - __ shall washed/cleaned, Harness, face peace and cylinders.
 - __ Cylinders recharged
 - __ Document any problem and tag out of service
- Walk through with Burn Supervisor and Facilitator
- Make sure all required paper work is turned in
- Close and secure the prop doors and windows before leaving

Lead Instructor: _____

Burn Supervisor: _____

Facilitator: _____



Post Site Inspection Comment Sheet

Location		Comments
Burn Rooms	101	
	102	
	103	
	104	
	201	
	202	
	203	
	301	
Ventilation Prop		
1 st Floor Maze		
2 nd Floor Maze		
Tower & Platform		
Basement Simulator		

Burn Supervisor's signature

Facilitator's signature

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APPENDIX IV

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Personal Protective Equipment Inspection Checklist

Equipment assigned to: _____ Inspected by: _____

Inspection date: _____ Inspector's signature: _____

Instructions:

This checklist will be used for the routine inspection of structural firefighting clothing only. This inspection is in no way a substitute for advanced professional evaluation of the clothing established by NFPA 1851 *Selection, Care, and Maintenance of Structural Fire Fighting Protective Ensemble*. Soiled or contaminated gear should be cleaned prior to inspection. The gear should be separated into component pieces in order to properly inspect. Use the check off list below to ensure that all critical areas are inspected. If an item is not applicable for a particular piece of equipment, draw a single line through the item. Any item identified in **BOLD** face print and marked "Y" (yes) will be deemed unsafe and will require further evaluation by a trained professional.

HELMET	Make:	Model:	Serial #:				
			P	F		P	F
Fits properly					Suspension system		
Soiling					Damaged or missing reflective trim		
Damage to shell: cracks, dents, abrasions						N	Y
Damage to liner: rips, tears, thermal damage					Visual damage to impact cap?		
Comments:							

EYE PROTECTION	Make:	Model:	Serial #:				
			P	F		P	F
Damaged or missing components to face-shield or goggle system					The face shield or goggle system does not function as designed?		
Comments:							

HOOD	Make:	Model:	Serial #:				
			P	F		P	F
Fits properly					Rips, tears, cuts, or thermal damage		
Soiling						N	Y
Contamination from hazardous materials or biological agents					Is the seam integrity compromised?		
Loss of face opening adjustments/shrinkage					The elastic does not rebound?		
Comments:							



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FOOTWEAR	Make:	Model:	Serial #:
	P	F	P F
Fits properly			Damaged or deformed safety toe, mid-sole, and shank
Soiling			
Contamination from hazardous materials or biological agents			Is seam integrity or liner compromised?
Rips, tears, and thermal damage			Is the sole or heel excessively worn?
Loss of water resistance			The closure system does not function properly?
Closure systems damage			Is the liner showing excessive wear?
Comments:			

COAT	Make:	Model:	Serial #:
	P	F	N Y
Coat overlaps trousers by at least 2"			Is seam integrity or liner compromised?
Soiling			Does any part of the outer shell feel brittle?
Contamination from hazardous materials or biological agents			Is the moisture barrier compromised (rips, discoloration, or thermal damage?)
Rips, tears, and cuts			Is the label missing or illegible?
Damaged or missing hardware			Are wristlets not functioning properly?
Thermal damage such as charring, burn holes, or melting in any layers			Has any part of the liner shifted or appear thin when compared to surrounding material?
Damaged or missing reflective trim			The Velcro is not holding as it should?
Closure systems damage			The liner system does not appear to securely attach to the outer shell?
			Closures do not appear to function correctly?
Comments:			

GLOVES	Make:	Model:	Serial #:
	P	F	P F
Fits properly			Inverted liner (liner pull out of gloves)
Soiling			Shrinkage
Contamination from hazardous material or biological agents			Loss of elasticity or flexibility
Rips, tears, cuts, or thermal damage			
Comments:			



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PANTS / TROUSERS	Make:	Model:		Serial #:		
		P	F		N	Y
Cuffs hanging below boots, frayed				Is seam integrity or liner compromised?		
Soiling				Does any part of the outer shell feel brittle?		
Contamination from hazardous materials or biological agents				Is the moisture barrier compromised (rips, discoloration, or thermal damage?)		
Rips, tears, and cuts				Is the label missing or illegible?		
Damaged or missing hardware				Are anklets not functioning properly?		
Thermal damage such as charring, burn holes, or melting in any layers				Has any part of the liner shifted or appear thin when compared to surrounding material?		
Damaged or missing reflective trim				The Velcro is not holding as it should?		
Closure systems damage				The liner system does not appear to securely attach to the outer shell?		
				Closures do not appear to function correctly?		
Comments:						

Companies Designated Representative's Signature:

Print Signature Date

Lead Instructors Signature:

Print Signature Date

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SCBA Inspection Checklist for Structural Burn Training

Equipment assigned to: _____ Inspected by: _____

Inspection date: _____ Inspector's signature: _____

SCBA Serial #: _____ Date: _____

Cylinder DOT #: _____ Hydro Date: _____

All Inspection criteria are in accordance with NFPA 1001, 2008 edition.

Inspection Procedures	PASS	FAIL
<i>Cylinder:</i>		
1. Check for damage		
2. Current hydrostatic test date		
3. Functional Check of the cylinder		
4. Ensure cylinder is full		
<i>Harness & Backpack:</i>		
5. Inspect all straps for damage		
6. Inspect backpack for damage		
7. Inspect all hoses for damage		
8. Functionally check straps and buckles		
<i>SCBA Functional Inspection</i>		
9. Functionally check of face piece ** (Mask must not show signs of excess heat exposure)		
10. Functionally check of regulator and face piece		
11. Functionally check of the emergency bypass valve		
12. Functionally check of the low pressure warning device		
13. Activates PASS device if part of SCBA unit		

By signing below the person who inspected the SCBA unit as well as the Chief or delegated Officer is confirming that this inspection was done and all information is correct. Only SCBA Units that pass this inspection should be used for live fire training. Instructors will have the right to inspect any unit on the day of live fire training if they feel the SCBA unit being used does not meet this inspection requirement.

All students should be familiar with the SCBA unit they are using for the Live Fire Training as well as having been Fit Tested to the size mask they are to use.

 SIGNATURE OF USER WHO
 INSPECTED UNIT

 DATE SIGNED

 SIGNATURE OF
 CHIEF/SUPERVISOR

 DATE SIGNED

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SCBA Cylinder Inspection Checklist for Structural Burn Training

Equipment assigned to: _____ Inspected by: _____

Inspection date: _____ Inspector's signature: _____

All Inspection criteria are in accordance with NFPA 1001, 2008 edition.

<i>Cylinder Serial #</i>	<i>Hydro Date</i>	<i>Functional</i>	<i>Damaged</i>	<i>Pressure (more than 75% full)</i>
		Yes or No	Yes or No	Yes or No
		Yes or No	Yes or No	Yes or No
		Yes or No	Yes or No	Yes or No
		Yes or No	Yes or No	Yes or No
		Yes or No	Yes or No	Yes or No
		Yes or No	Yes or No	Yes or No
		Yes or No	Yes or No	Yes or No
		Yes or No	Yes or No	Yes or No
		Yes or No	Yes or No	Yes or No
		Yes or No	Yes or No	Yes or No
		Yes or No	Yes or No	Yes or No
		Yes or No	Yes or No	Yes or No

Comments:

By signing below the person who inspected the SCBA Cylinder as well as the Chief or delegated Officer is confirming that this inspection was done and all information is correct. Only SCBA Cylinders that pass this inspection should be used for live fire training. Instructors will have the right to inspect any unit on the day of live fire training if they feel the SCBA cylinder being used does not meet this inspection requirement.

All students should be familiar with the SCBA unit and cylinder they are using for the Live Fire Training as well as having been Fit Tested to the size mask they are to use.

SIGNATURE OF USER WHO INSPECTED UNIT

DATE SIGNED

SIGNATURE OF CHIEF/SUPERVISOR

DATE SIGNED

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APPENDIX V

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High Temperature Pallet Burn Rack



Pallet burn bin must be staked in a pyramid and kept not less than 18" inches from the wall. The bins shell be move at the beginning of each SBS class. At no time should fire load exceed three pallets including the sum of all unburned portions of pallets. Only $\frac{1}{4}$ bale of excelsior may be used as a starter fuel.

Excelsior Only Smoke Burns Bins



Excelsior burn bins are designed for smoke burns. By fluffing the excelsior and soaking it with water to produce smoke when ignited. A 1/3 of a bale may be used for each burn. Bins must be kept 18 inches from all walls. Temperature should not exceed 500°F. Top rack of excelsior bins are for unburned materials from previous burns. (No large portions of unburned skid are aloud)

APPENDIX VI

For PSFA SBS Policy see BCPSTC web site

www.bucks.edu/publicsafety

under Forms

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Office of the State Fire Commissioner



Pennsylvania State Fire Academy

**Structural Burn/Live Fire
(SBS) Policy
No. 2006 - 02**

April 28, 2006



**LIVE FIRE SUPPRESSION
AND
NON-SUPPRESSION DRILL PROCEDURES
FOR ACQUIRED STRUCTURES AND FIXED
STRUCTURAL FIRE TRAINING BUILDINGS
AND OTHER OPEN BURNING COURSES**



PURPOSE: This policy is designed to create a safe instructional environment during fire suppression and non-suppression training evolutions involving live fires for acquired structures, fixed class A structural fire training buildings, and fixed LPG/LNG structural fire training buildings as well as other courses involving live fire. It consists of the steps to follow in setting up State Fire Academy approved drill, preparing the training site, and running the evolution. These procedures shall be followed on all live fire drills, as well as smoke drills using live fire.

I. PERSONNEL QUALIFICATIONS AND RESPONSIBILITIES: The Qualifications and responsibilities for personnel who are to be conducting the training evolution are listed below. These qualifications were designed to insure that individuals with the appropriate training and experience are in charge of the drill ground. * Note - if Live Fire is being used as part of the Interior Firefighter (ELIF) course, ALL Instructors of record must be Delmar accredited*

A. LEAD INSTRUCTOR shall be:

1. Accredited by the Pennsylvania State Fire Academy as a Suppression SBS Instructor.
2. Approved as Lead Instructor by the State Fire Academy Fire Service Education Specialist-Field Supervisor and ETA if applicable
3. Responsible for insuring a productive, safe learning environment during live fire burn evolutions, and for full compliance with these guidelines. He/she shall also be responsible to select Assistant Instructors in accordance with Section I, item B, C, D and E of this document and shall utilize an Incident Command System (ICS).
4. Responsible for making the decision to ignite the training fire in coordination with the Safety Officer.

B. ASSISTANT INSTRUCTORS shall be:

1. Accredited by the Pennsylvania State Fire Academy as a Suppression SBS Instructor.
2. Chosen by the Lead Instructor, subject to the approval of the State Fire Academy Fire Service Education Specialist- Field Supervisor and ETA if applicable.
3. Responsible to:
 - a. Perform all functions assigned to him/her by the Lead Instructor.
 - b. Assure that at no time any individual is alone in the burn room area
4. **Only Suppression Instructors approved by the PA State Fire Academy will direct and supervise the students involved in the live fire activities.**

C. SAFETY OFFICER shall be:

1. Accredited by the Pennsylvania State Fire Academy as a Suppression SBS Instructor.
2. Approved by the State Fire Academy Fire Service Education Specialist– Field Supervisor and ETA if applicable
3. Responsible to:
 - a. Appoint any Assistant Safety Officer (subject to the approval of the State Fire Academy Fire Service Education Specialist–Field Supervisor.) The qualifications for Assistant Safety Officers shall be the same as those for the Safety Officer.
 - b. Ensure that the Lead Instructor has complied with all the standards of this policy.
 - c. Observe and record all unsafe acts, and/or conditions on the drill ground including if the conditions are:
 - (1) Minor in nature, he/she shall inform the Lead Instructor to correct them.
 - (2) Serious in nature, he/she may use his/her discretion. His/her discretionary power allows the safety officer to stop a drill from continuing, with proper notification to the Lead Instructor.
 - d. Intervene to stop a potential accident or dangerous situation whenever an unsafe situation arises. ***In such instance, the safety officer shall become the senior ranking individual on the drill ground, regardless of his/her rank!***
 - e. Conduct a search of the structure to ensure that no unauthorized persons, animals, or objects are in the building immediately prior to ignition
 - f. Assure that at no time any individual is alone in the burn room area.
4. Assist the Lead Instructor in providing for the safety of all persons on the scene (including instructors, students, and bystanders) from incidents likely to cause personal injury, and/or equipment damage.
5. Be accountable to the State Fire Academy Fire Service Education Specialist-Field Supervisor for exercising his /her authority to intervene in the evolution.
6. Determine upon arrival at a live fire drill if the weather creates a potential menace. If it does, he/she will have the authority to cancel the drill in accordance with Section VII.

D. IGNITION OFFICER shall:

(Acquired and Fixed Facility – Class A Fuels)

1. Be accredited by the Pennsylvania State Fire Academy as a Suppression SBS Instructor.
2. Be chosen by the Lead Instructor subject to the approval of the State Fire Academy Fire Service Education Specialist- Field Supervisor and ETA if applicable
3. Control the materials being burned.
4. Wear full protective clothing, including self-contained breathing apparatus (SCBA) when performing this control function.

5. Be accompanied by a charged hose line when he/she is igniting any fire.
6. Be in the presence of and under the direct supervision of the Safety Officer when igniting the initial fire
7. Be responsible for adding all materials to the fire sets for repetitive fires

(Fixed Facility LPG/LNG)

1. Be accredited by the management of the fixed facility per their written policy (suggested Suppression Instructor level).
2. Be responsible for controlling the fuel and igniting all fires per fixed facility written policy.

E. RAPID INTERVENTION TEAM (RIT) OFFICER shall be:

1. Accredited by the Pennsylvania State Fire Academy as a Suppression SBS Instructor.
2. Chosen by the Lead Instructor subject to the approval of the State Fire Academy Fire Service Education Specialist- Field Supervisor and ETA if applicable
3. In charge of a team of no less than six (6) individuals, two (2) of which shall staff the Safety/Backup line and four (4) to serve as the RIT. Students MAY be utilized for this function.

* Duties, suggested training level, and minimum equipment for RIT is found in *Appendix G*.

F. SUPPORT PERSONEL shall:

1. Include but not be limited to; apparatus operators, rehab, traffic control and EMS standby. They shall not be a student nor counted as an Instructor.
2. Be trained and competent in their duties as assigned.
3. Wear PPE appropriate for their duties.

II. POLICIES AND PROCEDURES FOR LIVE FIRE DRILLS AT ACQUIRED STRUCTURES:

A. Prior to the drill:

1. The Lead Instructor (instructor of record) and Safety Officer will inspect the structure to determine if **live fire training** can be safely conducted and it is suitable for the drill. The Lead Instructor must obtain a release of liability letter from the property owner and applicable Burn Permit(s) from the municipality in which the drill(s) are being conducted. These letters must release all personnel and all agencies involved from any claim for loss resulting from the programs activities, and that all insurance coverage has been canceled. The Lead Instructor is responsible to submit the Application for Open Burning Exception for Firefighting Instruction (*Appendix A*) and the Request for Burn Drill (*Appendix B*) to the PA State Fire Academy Field Supervisor responsible for the county where the live drills are being conducted. These applications must be submitted at least forty-five (45) days before the anticipated drill. A copy of these forms must be present on the drill ground during **live fire training** drills.
2. After inspecting the structure, the Lead Instructor shall fill out the Live Fire Checklist (*Appendix C*) as each step occurs and it must be present at the drill site.

3. The Fire Service Education Specialist-Field Supervisor shall answer the Lead Instructor's request in writing at least ten (10) days prior to the drill. This letter will contain the approval/ disapproval of the requested drill, and the approval/disapproval of the requested instructors.
4. The Lead Instructor is responsible to notify all personnel (i.e., Assistant Instructors, Safety Officer, Ignition Officer, RIT Officer, Students) of the drill, and the time and location of where to report.
5. The Lead Instructor is responsible to obtain all necessary equipment needed for the drill (i.e. hand tools, SCBA, fire apparatus, etc.).

B. At the drill site:

1. To insure that all personnel are familiar with what is expected of them during the drill, there will be two briefings:
 - a. Instructors' Briefing - **ALL** instructors as well as the Safety Officer, Ignition Officer and RIT Officer will meet at the structure one and one half (1-1/2) hours prior to the drill and duty assignments will be made. All instructors plus the safety officer will complete a walk through to familiarize themselves with the structure(s).
 - b. Students' Briefing - **ALL** students will meet at the structure site one (1) hour prior to the start so students can be informed as to what is expected of them. Instructors, Safety Officer, RIT Officer and Ignition Officer will be introduced. Protective clothing and gear will be inspected. Students who have never been in the structure will be walked through so they can be familiarized with the layout. Students will be assigned into teams (squads).
 - c. Smoke Only - Instructors will meet one (1) hour prior to the start of the drill, and students will report one-half (1/2) hour early for assignments.
2. There are three classifications of hose lines:
 - a. Attack lines - are those hose lines used to suppress a fire, actively.
 - b. Back-up lines - are those being used for supporting the attack line crews.
 - c. Safety Lines - are those kept outside the structure, but at the ready in case of emergency.

The number and size of attack and back-up lines used is at the discretion of the Lead instructor. Any attack or back-up line will be capable of delivering a minimum of 95 gpm. **There shall be one instructor with each hose line being actively used inside the structure during the drill, regardless of the number of students.** There will be one instructor for each five students actively participating in the drill. Students on break do not need to have an instructor assigned to them.

Safety lines are always required. The Safety line will be part of RIT as defined in Section I.E.3. The line shall be a length adequate to access and attack in a fire anywhere in the structure. The safety line is only to be used if there is a perceived emergency in the structure.

3. The water supply for an individual live fire training evolution shall be assessed based on the extent of the evolutions, size and structure of the building and contents to be involved, method of attack to be employed, protection of exposures, and reserves for potential unexpected problems.

The minimum water supply and delivery rates for the live fire training evolutions shall meet the criteria established in NFPA 1142, *Standard on Water Supplies for Suburban and Rural Fire Fighting*, published by the National Fire Protection Association (NFPA).

A minimum reserve water supply of at least 50 percent of the total fire load demand shall be available to handle exposure protection or unforeseen situations. The safety line shall be on a

separate water source. This may be a second pumper either using its water tank as a source, or hooked up and prepared to draft from a natural water source or a hydrant from a different supply source. In any case, the safety lines will be on a separate water source than the backup or attack lines.

4. **The danger zone** will be the immediate area around the structure. The danger zone will be determined by multiplying the building height times 1.5, that distance will then be measured outward from the base of the structure and instituted/enforced by the Safety Officer. **NO** civilians or any other persons not members of the class wearing appropriate protective clothing will be allowed to enter the danger zone. (NOTE: it may be necessary to rope off the area, and/or patrol the boundaries of the danger zone to keep civilians out during house burns.)
5. **There must be an ambulance (BLS minimum) with medically trained staff present at all times during the drill.** The personnel staffing the ambulance will NOT be permitted to participate in the drill. The ambulance shall be located near the danger zone, and all personnel involved in the drill must be aware of its location.
6. A personnel accountability system shall be established for all drill participants (instructors and students) which will allow the lead instructor or other observers to, at any given point during the evolution, determine the name and approximate location (i.e. interior, exterior, Rehab, etc.) of each participant. A recognized emergency "evacuation" signal must be identified to all participants in the drill.

C. Protective Clothing:

Each participant shall be equipped with full protective clothing and self-contained breathing apparatus (SCBA). All participants shall be inspected by the safety officer prior to entry into a live fire training evolution to ensure that the protective clothing, SCBA, and a personal alert safety system (PASS) device are being properly worn and are in serviceable condition.

Prior to participating in any activity in Structural Burn Session courses, a visual inspection of all protective clothing used by ALL personnel participating in the drill activity will be completed. Inspection of protective clothing will be the responsibility of the Lead Instructor and will involve inspection of protective clothing worn by students, instructors and safety personnel. The PA State Fire Academy "Personal Protective Equipment Inspection List" (*Appendix D*) shall be used and filled out completely for ALL personnel participating in the drills.

In addition to the inspection of protective clothing, ALL personnel shall wear a long sleeve shirt and long pants or long sleeve coveralls under their protective clothing while participating in live structural burn activities.

- Protective coats, protective trousers, helmets, gloves, and footwear shall meet the requirements of NFPA 1971, *Standard on Protective Ensemble for Structural Fire Fighting*, (when purchased).
- Personal alarm devices shall meet the requirements of NFPA 1982, *Standard on Personal Alert Safety Systems (PASS)* (when purchased).
- Self-contained breathing apparatus, SCBA, shall meet the requirements of NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire and Emergency Services*, including low air alarm, positive pressure regulator, and functional PASS alarm (when purchased).

All students, instructors, safety personnel, and other personnel shall properly wear all protective clothing and equipment whenever these persons are involved in any evolution or fire suppression operation during the live training evolution.

All students, instructors, safety personnel, and other personnel participating in any evolution or operation of fire suppression during the live fire training evolution shall breathe from an SCBA air supply whenever one or more of the following conditions exist:

- (a) Operating in an atmosphere that is oxygen deficient or contaminated by products of combustion, or both.
- (b) Operating in an atmosphere that is suspected of being oxygen deficient or contaminated by products of combustion, or both.
- (c) Operating in any atmosphere that may become oxygen deficient or contaminated, or both.
- (d) Operating below ground level.

D. During the evolutions:

The fuels that are utilized in live fire training evolutions shall have known burning characteristics of such a nature to be controllable as possible. Unidentified materials, such as debris found in or around the structure, which may burn in unanticipated ways, react violently, or create environmental/health hazards, shall not be used.

1. ONLY CLASS "A" MATERIALS WILL BE USED IN THE FIRE: Pressure treated wood, rubber and plastic materials shall not be used.
2. **No Flammable/Combustible** liquids shall be used on any fire.
3. Only one fire at a time shall be permitted within an acquired structure
4. Proper fire fighting practices and procedures will be followed at all times.
5. Fires will be of a reasonably small size. That is to say that the fire should not be of a size that is uncontrollable when personnel are inside or about to enter the structure. **No more** than four (4) pallets of average size or comparable amount of Class A material shall be used per fire.
6. **All PA State Fire Academy and Fixed Site Policies will take precedent and be followed at fixed structural burn buildings.**

NOTE: These general guidelines will be followed on every live fire drill to insure the safety of all personnel. Every effort should be taken by the instructional staff to approximate a controllable and organized structural fire attack with the maximum attention to the safety of all the participants of the drill.

III. POLICIES AND PROCEDURES FOR LIVE FIRE DRILLS AT FIXED FACILITIES – CLASS A FUELED

A. Prior to the drill:

1. The Lead Instructor shall contact the management of the fixed facility to ensure that appropriate DEP or County Dept of Health regulations/permitting process have been met for the scheduled drill.
2. The Fire Service Education Specialist-Field Supervisor shall answer the Lead Instructor's request in writing at least ten (10) days prior to the drill. This letter will contain the approval/ disapproval of the requested drill, and the approval/disapproval of the requested instructors.
3. The Lead Instructor is responsible to notify all personnel (i.e., Assistant Instructors, Safety Officer, Ignition Officer, RIT Officer, Students) of the drill, and the time and location of where to report.

4. The Lead Instructor is responsible to obtain all necessary equipment needed for the drill (i.e. tools, SCBA's, fire apparatus, etc.).

B. At the drill site:

1. To insure that all personnel are familiar with what is expected of them during the drill, there will be two briefings:
 - a. Instructors' Briefing - **ALL** instructors as well as the Safety Officer, Ignition Officer and RIT Officer will meet at the burn structure prior to the drill and duty assignments will be made. All instructors plus the safety officer, Ignition Officer and RIT Officer will complete a walk through to familiarize themselves with the structure(s).
 - b. Students' Briefing - **ALL** students will meet at the structure site prior to the start so students can be informed as to what is expected of them. Instructors, Safety Officer, Ignition Officer and RIT Officer will be introduced. Protective clothing and gear will be inspected. Students who have never been in the structure will be walked through so they can be familiarized with the layout. Students will be assigned into teams (squads).
 - c. Smoke Only - Instructors will meet one (1) hour prior to the start of the drill, and students will report one-half (1/2) hour early for assignments.
2. There are three classifications of hose lines.
 - a. Attack lines - are those hose lines used to suppress a fire, actively.
 - b. Back-up lines - are those being used for supporting the attack line crews.
 - c. Safety Lines - are those kept outside the structure, but at the ready in case of emergency.

The number and size of attack and back-up lines used is at the discretion of the Lead instructor. Any attack or back-up line will be capable of delivering a minimum of 95 gpm. **There shall be one instructor with each hose line being actively used inside the structure during the drill, regardless of the number of students.** There will be one instructor for each five students actively participating in the drill. Students on break do not need to have an instructor assigned to them.

Safety lines are always required. The Safety line will be part of RIT as defined in Section I.E.3. The line shall be a length adequate to access and attack in a fire anywhere in the structure. The safety line is only to be used if there is a perceived emergency in the structure.

3. The water supply for an individual live fire training evolution shall be assessed based on the extent of the evolutions, size and structure of the building and contents to be involved, method of attack to be employed, protection of exposures, and reserves for potential unexpected problems.

The minimum water supply and delivery rates for the live fire training evolutions shall meet the criteria established in NFPA 1142, *Standard on Water Supplies for Suburban and Rural Fire Fighting*, published by the National Fire Protection Association (NFPA).

A minimum reserve water supply of at least 50 percent of the total fire load demand shall be available to handle exposure protection or unforeseen situations. The safety line shall be on a separate water source. This may be a second pumper either using its water tank as a source, or hooked up and prepared to draft from a natural water source or a hydrant from a different supply source. In any case, the safety lines will be on a separate water source than the backup or attack lines.

Exception: A single source shall be sufficient at a training center facility where the water system has been engineered to provide adequate volume for the evolutions conducted and a backup power

source or backup pumps, or both, are in place to ensure an uninterrupted supply in the event of a power failure or malfunction.

4. **The danger zone** will be the immediate area around the structure. The danger zone will be determined by written policy determined by the management of the fixed facility and shall be enforced by the Safety Officer. **NO** civilians or any other persons not members of the class wearing appropriate protective clothing will be allowed to enter the danger zone. (NOTE: it may be necessary to rope off the area, and/or patrol the boundaries of the danger zone to keep civilians out during house burns.)
5. **There must be medically trained staff present at all times during the drill.** The EMS personnel will NOT be permitted to participate in the drill. If an ambulance is on scene shall be located near the danger zone, and all personnel involved in the drill must be aware of its location. (When the cost of a BLS ambulance stand-by is cost prohibitive, a fixed facility may have on site solely dedicated to the live fire and/or smoke training class a minimum of one certified EMT with appropriate medial equipment and supplies as prescribed by the PA DOH that an EMT may use.)
6. A personnel accountability system shall be established for all drill participants (instructors and students) which will allow the lead instructor or other observers to, at any given point during the evolution, determine the name and approximate location (i.e. interior, exterior, Rehab, etc.) of each participant. A recognized emergency "evacuation" signal must be identified to all participants in the drill.

C. Protective Clothing:

Each participant shall be equipped with full protective clothing and self-contained breathing apparatus (SCBA). All participants shall be inspected by the safety officer prior to entry into a live fire training evolution to ensure that the protective clothing, SCBA, and a personal alert safety system (PASS) device are being properly worn and are in serviceable condition.

Prior to participating in any activity in Structural Burn Session courses, a visual inspection of all protective clothing used by ALL personnel participating in the drill activity will be completed. Inspection of protective clothing will be the responsibility of the Lead Instructor and will involve inspection of protective clothing worn by students, instructors and safety personnel. The PA State Fire Academy "Personal Protective Equipment Inspection List" (*Appendix D*) shall be used and filled out completely for ALL personnel participating in the drills.

In addition to the inspection of protective clothing, ALL personnel shall wear a long sleeve shirt and long pants or long sleeve coveralls under their protective clothing while participating in live structural burn activities.

- Protective coats, protective trousers, helmets, gloves, and footwear shall meet the requirements of NFPA 1971, *Standard on Protective Ensemble for Structural Fire Fighting*, (when purchased).
- Personal alarm devices shall meet the requirements of NFPA 1982, *Standard on Personal Alert Safety Systems (PASS)* (when purchased).
- Self-contained breathing apparatus, SCBA, shall meet the requirements of NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire and Emergency Services*, including low air alarm, positive pressure regulator, and functional PASS alarm (when purchased).

All students, instructors, safety personnel, and other personnel shall properly wear all protective clothing and equipment whenever these persons are involved in any evolution or fire suppression operation during the live training evolution.

All students, instructors, safety personnel, and other personnel participating in any evolution or operation of fire suppression during the live fire training evolution shall breathe from an SCBA air supply whenever one or more of the following conditions exist:

- a. Operating in an atmosphere that is oxygen deficient or contaminated by products of combustion, or both.
- b. Operating in an atmosphere that is suspected of being oxygen deficient or contaminated by products of combustion, or both.
- c. Operating in any atmosphere that may become oxygen deficient or contaminated, or both.
- d. Operating below ground level.

D. During the evolutions:

The fuels that are utilized in live fire training evolutions shall have known burning characteristics of such a nature to be controllable as possible. Unidentified materials, such as debris found in or around the structure, which may burn in unanticipated ways, react violently, or create environmental/health hazards, shall not be used.

1. **ONLY CLASS "A" MATERIALS WILL BE USED IN THE FIRE:** Pressure treated wood, rubber and plastic materials shall not be used.
2. **NO** flammable/combustible liquids be used inside the burn building(s) to start fires. This policy will be in writing and reviewed during the briefing of instructional staff prior to the start of a drill.
3. For **initial** fires, there shall be an Ignition Officer for each fire floor. The Safety Officer shall supervise the ignition of each initial fire
4. Subsequent fires shall be fueled and/or reignited by an Ignition Officer supervised by an Assistant Instructor assigned to that floor.
5. Proper fire fighting practices and procedures will be followed at all times.
6. Fires will be of a reasonably small size. That is to say that the fire should not be of a size that is uncontrollable when personnel are inside or about to enter the structure. It is recommended that **no more** than four (4) wooden pallets of average size or comparable amount of Class A material shall be used per fire. The management of a fixed facility shall determine the amount of Class A material that will be used per fire. This information will be specific to each burn area of the burn structure(s) and will be in writing. The quantities of materials to be used will be reviewed with the instructional staff prior the start of the drill.
7. **All PA State Fire Academy and Fixed Site Policies will take precedent and be followed at fixed structural burn buildings.**

NOTE: These general guidelines will be followed on every live fire drill to insure the safety of all personnel. Every effort should be taken by the instructional staff to approximate a controllable and organized structural fire attack with the maximum attention to the safety of all the participants of the drill.

IV. POLICIES AND PROCEDURES FOR LIVE FIRE DRILLS AT FIXED FACILITIES – LPG/LNG FUELED

A. Prior to the drill:

1. The Lead Instructor shall contact the management of the fixed facility to ensure that appropriate DEP or County Dept of Health regulations and permitting processes have been met for the scheduled drill.

2. The Lead Instructor (instructor of record) shall notify the State Fire Academy Fire Service Education Specialist-Field Supervisor of plans to have a **Live Fire Fighting or Live Fire Search and Rescue/SCBA** drill at the fixed facility. **This request will be made in writing at least forty-five (45) days prior to the drill.** (Appendix B)
3. The Fire Service Education Specialist-Field Supervisor shall answer the Lead Instructor's request in writing at least ten (10) days prior to the drill. This letter will contain the approval/ disapproval of the requested drill, and the approval/disapproval of the requested instructors.
4. The Lead Instructor is responsible to notify all personnel (i.e., Assistant Instructors, Safety Officer, Ignition Officer, RIT Officer, Students) of the drill, and the time and location of where to report.
5. The Lead Instructor is responsible to obtain all necessary equipment needed for the drill (i.e. tools, SCBA's, fire apparatus, etc.).

B. At the drill site:

1. To insure that all personnel are familiar with what is expected of them during the drill, there will be two briefings:
 - a. Instructors' Briefing - **ALL** instructors as well as the Safety Officer, Ignition Officer and RIT Officer will meet at the burn structure prior to the drill and duty assignments will be made. All instructors plus the Safety officer, Ignition Officer and RIT Officer will complete a walk through to familiarize themselves with the structure(s).
 - b. Students' Briefing - **ALL** students will meet at the structure site prior to the start so students can be informed as to what is expected of them. Instructors, Safety Officer, Ignition Officer and RIT Officer will be introduced. Protective clothing and gear will be inspected. Students who have never been in the structure will be walked through so they can be familiarized with the layout. Students will be assigned into teams (squads).
 - c. Smoke Only - Instructors will meet one (1) hour prior to the start of the drill, and students will report one-half (1/2) hour early for assignments.

2. There are three classifications of hose lines.
 - a. Attack lines - are those hose lines used to suppress a fire, actively.
 - b. Back-up lines - are those being used for supporting the attack line crews.
 - c. Safety Lines - are those kept outside the structure, but at the ready in case of emergency.

The number and size of attack and back-up lines used is at the discretion of the Lead instructor. Any attack or back-up line will be capable of delivering a minimum of 95 gpm. **There shall be one instructor with each hose line being actively used inside the structure during the drill, regardless of the number of students.** There will be one instructor for each five students actively participating in the drill. Students on break do not need to have an instructor assigned to them.

Safety lines are always required. The Safety line will be part of RIT as defined in Section I.E.3. The line shall be a length adequate to access and attack in a fire anywhere in the structure. The safety line is only to be used if there is a perceived emergency in the structure.

3. The water supply for an individual live fire training evolution shall be assessed based on the extent of the evolutions, size and structure of the building and contents to be involved, method of attack to be employed, protection of exposures, and reserves for potential unexpected problems.

The minimum water supply and delivery rates for the live fire training evolutions shall meet the criteria established in NFPA 1142, *Standard on Water Supplies for Suburban and Rural Fire Fighting*, published by the National Fire Protection Association (NFPA).

A minimum reserve water supply of at least 50 percent of the total fire load demand shall be available to handle exposure protection or unforeseen situations. The safety line shall be on a separate water source. This may be a second pumper either using its water tank as a source, or hooked up and prepared to draft from a natural water source or a hydrant from a different supply source. In any case, the safety lines will be on a separate water source than the backup or attack lines.

Exception: A single source shall be sufficient at a training center facility where the water system has been engineered to provide adequate volume for the evolutions conducted and a backup power source or backup pumps, or both, are in place to ensure an uninterrupted supply in the event of a power failure or malfunction.

4. **The danger zone** will be the immediate area around the structure. The danger zone will be determined by written policy determined by the management of the fixed facility and shall be enforced by the Safety Officer. **NO** civilians or any other persons not members of the class wearing appropriate protective clothing will be allowed to enter the danger zone. (NOTE: it may be necessary to rope off the area, and/or patrol the boundaries of the danger zone to keep civilians out during house burns.)
5. **There must be medically trained staff present at all times during the drill.** The EMS personnel will NOT be permitted to participate in the drill. If an ambulance is on scene shall be located near the danger zone, and all personnel involved in the drill must be aware of its location. (When the cost of a BLS ambulance stand-by is cost prohibitive, a fixed facility may have on site solely dedicated to the live fire and/or smoke training class a minimum of one certified EMT with appropriate medial equipment and supplies as prescribed by the PA DOH that an EMT may use.)
6. A personnel accountability system shall be established for all drill participants (instructors and students) which will allow the lead instructor or other observers to, at any given point during the evolution, determine the name and approximate location (i.e. interior, exterior, Rehab, etc.) of each participant. A recognized emergency "evacuation" signal must be identified to all participants in the drill.

C. **Protective Clothing:**

Each participant shall be equipped with full protective clothing and self-contained breathing apparatus (SCBA). All participants shall be inspected by the safety officer prior to entry into a live fire training evolution to ensure that the protective clothing, SCBA, and a personal alert safety system (PASS) device are being properly worn and are in serviceable condition.

Prior to participating in any activity in Structural Burn Session courses, a visual inspection of all protective clothing used by ALL personnel participating in the drill activity will be completed. Inspection of protective clothing will be the responsibility of the Lead Instructor and will involve inspection of protective clothing worn by students, instructors and safety personnel. The PA State Fire Academy "Personal Protective Equipment Inspection List" (*Appendix D*) shall be used and filled out completely for ALL personnel participating in the drills.

In addition to the inspection of protective clothing, ALL personnel shall wear a long sleeve shirt and long pants or long sleeve coveralls under their protective clothing while participating in live structural burn activities.

- Protective coats, protective trousers, helmets, gloves, and footwear shall meet the requirements of NFPA 1971, *Standard on Protective Ensemble for Structural Fire Fighting*, (when purchased).

- Personal alarm devices shall meet the requirements of NFPA 1982, *Standard on Personal Alert Safety Systems (PASS)* (when purchased).
- Self-contained breathing apparatus, SCBA, shall meet the requirements of NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire and Emergency Services*, including low air alarm, positive pressure regulator, and functional PASS alarm (when purchased).

All students, instructors, safety personnel, and other personnel shall properly wear all protective clothing and equipment whenever these persons are involved in any evolution or fire suppression operation during the live training evolution.

All students, instructors, safety personnel, and other personnel participating in any evolution or operation of fire suppression during the live fire training evolution shall breathe from an SCBA air supply whenever one or more of the following conditions exist:

1. Operating in an atmosphere that is oxygen deficient or contaminated by products of combustion, or both.
2. Operating in an atmosphere that is suspected of being oxygen deficient or contaminated by products of combustion, or both.
3. Operating in any atmosphere that may become oxygen deficient or contaminated, or both.
4. Operating below ground level.

D. During the evolutions:

The fuels that are utilized in live fire training evolutions shall have known burning characteristics of such a nature to be controllable as possible. Unidentified materials, such as debris found in or around the structure, which may burn in unanticipated ways, react violently, or create environmental/health hazards, shall not be used.

1. The Safety Officer shall supervise the ignition of each initial fire
2. Subsequent fires shall be reignited by the Ignition Officer supervised by an Assistant Instructor assigned to that floor.
3. Proper fire fighting practices and procedures will be followed at all times.
4. **All PA State Fire Academy and Fixed Site Policies will take precedent and be followed at fixed structural burn buildings.**

NOTE: These general guidelines will be followed on every live fire drill to insure the safety of all personnel. Every effort should be taken by the instructional staff to approximate a controllable and organized structural fire attack with the maximum attention to the safety of all the participants of the drill.

V. VEHICLE FIRES, FIRE EXTINGUISHER FIRES, ETC.

Any course utilizing "Live Fire" in an actual vehicle shall adhere to other Commonwealth Agency regulations i.e.: Crimes Code Title 18 regarding destruction of vehicles as well as D.E.P. regulations for open burning. See *Appendix E* for more information.

Any course utilizing live fire for fire extinguisher training shall adhere to D.E.P. regulations for open burning.

VI. NON LIVE-FIRE COURSES

Any course utilizing "Live Smoke" shall require a minimum of three (3) instructors, one (1) of which shall be Suppression level. The remaining two (2) instructors shall be approved by the State Fire Academy Field Education Specialist-Field Supervisor. "Live Smoke" shall be defined as; smoke generated from within the structure by use of combustion of any materials to cause smoke to be generated. The Lead Instructor shall utilize the same request form used for SBS courses. A staffed charged hoseline shall be available whenever students are in the drill building.

VII. WEATHER

RESPONSIBILITY: It will be the responsibility of the LEAD INSTRUCTOR to insure that the guidelines set forth in this procedure are followed.

PROCEDURE: Health and Safety Professionals have identified four areas that affect an individual's ability to work in hostile environment. These include:

- **Acclimatization:** For the purposes of live fire training acclimatization will never occur. This generally deals with those individual who work in a given area subjected to the same environmental factors for an continuous period of time. Physical fitness is considered a subset of acclimatization.
- **Environmental Conditions:** Cold and heat stressors use different variables in determining whether conditions are acceptable. Heat Index relies on Temperature and Relative Humidity while wind chill relies on temperature and wind speed. In order to determine these values sophisticated monitoring equipment along with complex calculations are required. Interior burn building conditions will not factor into determining acceptable environmental conditions.
- **Protective Clothing:** While protective clothing is design to protect from a hostile environment, it also hinders that body's natural cooling ability.
- **Workload:** Workload can be placed into one of three categories, which are Light, Medium, or Heavy. An example of light work would be a member who is assigned to the Rapid Intervention Team. A medium workload is an instructor who is working in a given area within the building but not actively working. A heavy workload is most likely to be experienced by a hose team that is carrying out suppression activities.

A. Pre-incident activities

1. The lead instructor will gather the weather forecast for inclusion in the morning briefing and to insure that the area is established accordingly.
2. In the event that it is necessary to establish a rehab area, the lead instructor shall:
 - a. Brief all instructors and students/candidates on the signs and symptoms of Heat-Related Disorders.
 - b. Encourage all participants to report any signs and symptoms that affect not only them but also anyone who is involved in the program.
 - c. Review of the chart shown in *Appendix F* is not necessary if an appropriate visual aid has been posted.

B. Incident Activities

1. Monitoring

- a. All instructors will be expected to monitor both students and instructors for heat-related disorders.
 - b. Should extra EMS personnel be available, they will monitor the health and welfare of all involved from warm zone.
 - c. In the event that a student exhibits signs of a heat related disorder, the lead instructor/designee will direct the student to EMS. A refusal will result in immediate removal from the program.
 - d. In the event that an instructor exhibits signs of a heat related disorder, the lead instructor and/or designee in consultation with the Safety Officer shall direct the instructor to EMS for evaluation.
2. Removal from the Program
- a. A candidate may be removed from the program for the following reasons:
 - 1) The candidate voluntarily removes themselves
 - 2) The Lead Instructor and Safety Officer on the advice of the Rehab Officer or highest ranking EMS person shall remove an individual from the program if allowing him or her to continue would pose an unnecessary risk to the participant or crew.
 - 3) Where a visit to Rehab has resulted in longer than anticipated stays on more than two occurrences.
3. Discontinuing a program.
- a. The lead instructor will continually monitor weather conditions for any unexpected changes that may result in additional thermal stressors (i.e. changes in humidity levels)
 - b. The instructional staff should continually monitor the students for signs of heat disorders. Due to varied levels physical fitness some candidates will show signs of fatigue much sooner than someone who is more physically fit. Using the least, or most, physically fit individuals as the slide-rule is a dangerous practice.
 - c. If three or more people either remove themselves or are removed.
 - d. If the Lead Instructor and the Safety Officer after discussion with the Rehab Officer feel that continuing the program would place students and instructors at an undue risk.

C. Post-incident Activities

- 1. The lead instructor will insure that incident reports are completed for all individuals that exhibited signs or symptoms of heat disorders.
- 2. Conduct a post incident review with instructors/students. This review should include:
 - a. The need to continue hydrating.
 - b. The use of alcohol should be avoided

VIII. REHAB

To ensure that the physical and mental condition of students and instructors operating at a training exercise do not deteriorate to a point that affects the safety of each member or that jeopardize the safety and integrity of the operation. This procedure shall apply to all SBS courses.

A. Location

Shall be determined by the Lead instructor in consultation with the EMS officer or senior medic on scene. The following conditions should be considered when establishing a rehab sector:

1. Upwind of the incident
2. Free from exhaust fumes
3. Shaded area
4. Minimal noise
5. As close to the incident as possible without interfering with scene operations
6. Ingress and egress for transporting units is provided
7. Away from crowds and traffic
8. Near air refill area
9. Shelter from inclement weather
10. Near Incident command post
11. The rehab area shall be considered a "No Smoking" area.

B. Chain of Command

1. The Lead Instructor (IC) shall have the overall responsibility to ensure that a rehab sector is implemented in accordance with the rehab SOG. The lead instructor shall work in a unified command structure with the EMS incident commander and Safety Officer to ensure the safety and rehab compliance of all student and instructors. The IC will serve as the primary point of contact for the Safety Officer in the chain of command reporting process.
2. The Safety Officer: shall work in a unified command structure with the Incident commander and EMS officer to ensure the safety and rehab compliance of all student and instructors. The Safety Officer shall be the primary point of contact for the EMS officer in the chain of command reporting process.
3. EMS Officer shall:
 - a. be filled by the highest trained medic or EMS supervisor
 - b. determine the location of the Rehab area after consulting with the Incident Command and Safety Officer
 - c. be responsible for overall EMS operations
 - d. direct Rehab personnel from the Rehab area to the location of injured students and instructors
 - e. ensure fire personnel are sent to the rehab area with escorts
 - f. determine which units will be used for transport
 - g. request and assign additional units as needed

- h. be a liaison with outside EMS agencies for transport and supplemental staffing
- i. Ensure proper documentation of all events in the Rehab area

NOTE: Unforeseen situations leading to a large number of patients may require additional EMS resources and officer assignments to fulfill the situational needs. In this type of situation all class operations will cease until the situation is mitigated and restored to a normal operational status.

Additional EMS assignments include:

- **Staging** – Responsible for coordination of additional units and personnel
- **Transportation** – Responsible for assigning units to transport patients and personnel
- **Logistics** – Responsible for procurement and storage of supplies. (i.e. water, food, ice, bathrooms, lodging, etc.)

2. Rehab Officer shall:

- a. Be filled by the next highest ranking medical person available.
- b. Monitor the mental capacity, vital signs, and general well-being of all students and instructors as the report to the rehab sector
- c. Provide hydration, nourishment and supplemental interventions for recovery
- d. Decide when students and instructors may return to duty
- e. Notify the EMS Officer when a patient needs transported
- f. Ensure the rehab crew is standing by with a stretcher, backboard, collars, and oxygen, to treat injured students or instructor

C. Implementation and Flow Pattern

1. Candidates shall report to the Rehab area when
 - a. After each interior evolution utilizing SCBA
 - b. Prolonged exterior operation involving physical exertion
 - c. Operations in extreme heat and cold weather temperatures
 - d. Experiencing physical complaints of chest pain, difficulty breathing, dizziness, or fainting
 - e. They have sustained an injury
 - f. They may report to Rehab anytime they feel the need for rest or reconditioning
 - g. Anytime a officer orders them to do so

* It is essential that rehab accountability be established and maintained during the training evolution. This will ensure that students and Instructors are care for appropriately. Therefore, students and Instructors shall notify the incident command officer before proceeding to the Rehab area. Injured or ill firefighters must have an escort to the Rehab area. Students and Instructors must stay in the rehab

area until released. Upon release, Students and Instructors will reported to the Incident Command Post area for re-assignment.

D. Equipment – recommended:

1. BP cuffs and stethoscopes (at least three)
2. Oxygen cylinders, masks
3. Cardiac monitor, trauma bag, drug box, BLS/ALS bags
4. Spinal Immobilization equipment
5. Water and Cups
6. Cold towels and fan (hot weather)
7. Blankets
8. Ground tarps
9. Trash bags
10. Food (soups, stews, fruits nutrition bars)
11. Other – Awnings, smoke ejectors, heaters, dry clothing, lights, traffic cones, and fire line tape

E. Medical Evaluation and Management

1. Students/Instructors/Staff reporting to the Rehab area shall remove as much of their bunker gear as indicated by the ambient temperature.
2. Vital signs, time, and number of air cylinders used should be recorded.
3. Students/Instructors/staff exhibiting signs and symptoms of heat stress shall have their temperature taken.
4. Normal values for vital signs are variable.
5. Blood pressure is not considered a warning sign unless it is abnormally high or low.
6. Pulse and respiration rates are better indicators of an individual's response to exercise.
7. Specifically, watch how quickly these values return to a normal range.

F. Hydration

A critical factor in the prevention of heat injury is the maintenance of water and electrolytes. Water is the fluid of choice for re-hydration. Water is more readily absorbed than fluids containing sugar. Liberal amounts of water are encouraged since thirst is not a reliable indicator of fluid status. Avoid coffee, alcohol, and carbonated beverages, these can interfere with the body's water conservation mechanism.

G. Nourishment

Food should be provided at the scene of extended training periods. A cup of soup or stew is highly recommended because it is digested much faster than sandwiches and fast-food products. In addition, foods such as apples, oranges, bananas and nutrition bars provide supplemental forms of energy replacement. Fatty and/or salty foods should be avoided.

H. Recovery

1. Students and Instructors in the rehab area should maintain a high level of hydration.
2. Patients should not be moved from a hot environment directly into an air-conditioned area because the body's cooling system can shut down in response to the external cooling. An air-conditioned environment is acceptable after a cool-down period at the ambient temperature.
3. While oxygen is available in the rehab area, it does NOT speed recovery. Oxygen should be administered only if a medical condition warrants its use. Any Students or Instructor needing oxygen should be encouraged to seek transport to the hospital

I. Criteria for Returning to Duty

1. The minimum amount of time a Candidate or Instructor should stay in the Rehab area is ten minutes.
 - a. Vital signs should be repeated before a firefighter is released.
 - b. The decision to release is based on subjective means. First the Students or Instructor must express a desire to return to work. The decision to keep a Students or Instructor is based more on what he/she has reported than on what you find by assessing. Students or Instructors who have experienced any of the following symptoms shall not be permitted to return to training:
 1. Vomiting
 2. Severe headache unrelieved by rest
 3. Sweating inconsistent with the ambient temperature
 4. Muscle cramping of any major muscle group
 5. Those maintaining a pulse rate of greater than 110

Students/Instructors/Staff who have sustained minor soft tissue injuries may return to limited duty if the injury has been treated. They should return after the event is concluded for further evaluation and transport, if indicated.

Students/Instructors/Staff who wish to return to the training evolution against medical advice must have approval from the Lead Instructor and Safety Officer. The EMS IC will notify the Safety and Lead instructor of the situation and also advise the student's home chief that he must assume responsibility for the student. Instructors continuing in the training evolution will be at the approval of the Safety and Lead instructors.

J. Documentation

The following Information shall be maintained by the EMS Officer on all Students/Instructors/Staff at each rehab visit:

1. Name
2. Time of each assessment

3. Vitals (pulse, temperature, respiration, skin color, blood pressure)
4. Cardiac monitoring as necessary
5. Complications
6. Treatment
7. Release to duty information
8. Refused treatment and transport forms
9. Transport information

IX. ENFORCEMENT

Failure to adhere to any or all of this policy when conducting PSFA approved Live Fire or Smoke Training may result in discipline up to and including suspension or revocation of Instructor credentials.

X. Delegation of Program Management

The Pennsylvania State Fire Commissioner delegate's ongoing management and implementation of this policy to authorized staff of the program involved unless or until withdrawn. Specific responsibilities are placed upon the PA State Fire Academy Administrator, the Fire Academy Curriculum Specialist, the Fire Education Specialists and the staff of the PA State Fire Academy.

XI. Authority

Title 35 Health and Safety as amended.

XII. Supersedes

This Office of the State Fire Commissioner SBS Policy #2006 - 02 dated April 28,2006 supersedes and rescinds any and all other policies related to SBS/Live Fire Training of the Office of the State Fire Commissioner.

XIII. Duration of Instructor Policy

This Incident/Accident Reporting Policy shall remain in effect until superseded or suspended.

XIV. Effective Date

June 1, 2006

Timothy L. Dunkle

Timothy L. Dunkle, Administrator, PSFA
Office of the State Fire Commissioner

Appendix A



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

Instructions for Completing, Submitting, and Processing the Application For Open Burning Exception For Fire Fighting Instruction

(In cooperation with the Office of the State Fire Commissioner/Pennsylvania State Fire Academy)

This Application provides the Department of Environmental Protection (DEP), Bureau of Air Quality with the necessary information to review and approve requests for open burning exceptions for the purpose of fire fighting instruction by emergency service organizations in accordance with Departmental regulations found at 25 Pa. Code §129.14(c)(2):

(c) Exceptions. The requirements of subsections (a) and (b) do not apply where the open burning operations result from:

... (2) Any fire set for the purpose of instructing personnel in fire fighting, when approved by the Department.

The Department must be notified in writing of the training being conducted, whether it is at an "acquired" structure, a permanent fire fighting structure or site, or some other form of fire fighting instruction involving open fire.

Any questions about this application or the open burning exception for the purpose of fire fighting instruction should be directed to the DEP Air Quality Program Office for the county in which the training is scheduled to take place:

Counties: Bucks, Chester, Delaware, Montgomery, please contact:

DEP Air Quality Program Office 484-250-5920
2 East Main Street FAX: 484-250-5921
Norristown, PA 19401-4915

Counties: Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, Schuylkill, Susquehanna, Wayne, Wyoming, please contact:

DEP Air Quality Program Office 570-826-2511
2 Public Square FAX: 570-826-2357
Wilkes-Barre PA 18711-0790

Counties: Adams, Bedford, Berks, Blair, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry, York, please contact:

DEP Air Quality Program Office 717-705-4702
909 Elmerton Avenue FAX: 717-705-4830
Harrisburg PA 17110

Counties: Bradford, Cameron, Centre, Clearfield, Clinton, Columbia, Lycoming, Montour, Northumberland, Potter, Snyder, Sullivan, Tioga, Union, please contact:

DEP Air Quality Program Office 570-327-3745
208 West Third Street St., Suite 101 FAX: 570-327-3420
Williamsport PA 17701

Counties: Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland, please contact:

DEP Air Quality Program Office 412-442-4161
400 Waterfront Drive FAX: 412-442-4194
Pittsburgh PA 15222

Counties: Butler, Clarion, Crawford, Elk, Erie, Forest, Jefferson, Lawrence, McKean, Mercer, Venango, Warren, please contact:

DEP Air Quality Program Office 814-332-6940
230 Chestnut Street FAX: 814-332-6117
Meadville PA 16335-3481

A. Submission and Approval Process for use of an Acquired Structure for Fire Fighting Training: Emergency service organizations may use “acquired” structures for the purpose of developing competency and proficiency in fire suppression and structural rescue skills if they file this form and receive approval from the Office of the State Fire Commissioner (OSFC)/Pennsylvania State Fire Academy (PSFA) and from the DEP. The completion, submittal, and approval of this entire Application is required when using an acquired structure. This will help insure:

- that the demolition of the acquired structure by setting a fire is for the sole purpose of fire fighting training.
- that the training being conducted is a registered PA State Fire Academy course.
- that the instructors are approved by the PA State Fire Academy and are trained and competent in fire suppression and structural fire rescue training.
- that the reporting requirements of the Asbestos NESHAP regulation are met for the demolition of a subject facility by intentional burning.
- that the environment of the Commonwealth is protected.

An emergency service organization wishing to conduct fire fighting training in an acquired structure shall do the following:

1. Complete and submit a “*Local Level Course Application*” to an Educational Training Agency that services the county where the acquired structure is located. This application is available by calling the PSFA at 1-800-459-4096 (outside PA 717-248-1115) and requesting the application. It may also be downloaded from the Office of the State Fire Commissioner’s website (<http://www.osfc.state.pa.us>). This application should be submitted to an Educational Training Agency servicing the county in which the training will occur **at least 45 days before the anticipated training date(s).**
2. Complete and submit the entire **DEP Application for Open Burning Exception for Fire Fighting Instruction** to the PSFA Field Supervisor responsible for the county where the acquired structure is located (see list below). To insure timely processing of the request and to avoid a possible delay of the scheduled training, the application shall be submitted to the appropriate PSFA Field Supervisor **at least 45 days before the anticipated training date(s).** This is necessary to provide sufficient time for OSFC/PSFA and DEP staff to review the application, conduct the site inspection, and for the emergency service organization to receive written responses from PSFA and DEP.

Eastern PSFA Region Counties: Berks, Bradford, Bucks, Carbon, Chester, Columbia, Delaware, Lackawanna, Lehigh, Luzerne, Monroe, Montgomery, Northampton, Philadelphia, Pike, Schuylkill, Susquehanna, Wayne, Wyoming

Robert Bechtel robbechtel@state.pa.us
PSFA
1150 Riverside Drive
Lewistown, PA 17044-1979

1-800-459-4096 Extension 102
Outside PA – 717-248-1115
FAX: 717-248-3580

Central PSFA Region Counties: Adams, Bedford, Blair, Cambria, Centre, Clinton, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Lycoming, Mifflin, Montour, Northumberland, Perry, Potter, Snyder, Somerset, Sullivan, Tioga, Union, York

Gary Rickenbach grickenbac@state.pa.us
PSFA
1150 Riverside Drive
Lewistown, PA 17044-1979

1-800-459-4096 Extension 103
Outside PA – 717-248-1115
FAX: 717-248-3580

Western PSFA Region Counties: Allegheny, Armstrong, Beaver, Butler, Cameron, Clarion, Clearfield, Crawford, Elk, Erie, Fayette, Forest, Greene, Indiana, Jefferson, Lawrence, McKean, Mercer, Venango, Warren, Washington, Westmoreland

William Ruth wruth@state.pa.us
PEMA Western Area Office
276 Stomer Road
Indiana, PA 15701

724-357-0103/800 972-7362
FAX: 724-357-2992

The PSFA Field Supervisor will review the submitted DEP Application for Open Burning Exception for Fire Fighting Instruction for the Course Title or type of training to occur and the Lead Instructor. If the Lead Instructor is approved to teach this type of instruction and the course is duly registered, the PSFA Field Supervisor will approve the application.

The PSFA Field Supervisor will forward the application to the appropriate DEP Air Quality Program Office.

- 3. Complete and submit the **Asbestos Abatement and Demolition/Renovation Notification Form** (DEP Form 2700-FM-AQ0021) to DEP with a copy to the U.S. EPA at the following addresses. It is recommended that this be done at the same time as the form in item 1 is submitted to the PSFA Field Supervisor. **Please write “Fire Fighting Training” in box 1 on the Asbestos Abatement and Demolition/Renovation Notification Form.**

DEP Regular Mail	DEP Overnight/Express Mail/Hand Delivery	U.S. EPA
Asbestos Notification DEP Bureau of Air Quality PO Box 8468 Harrisburg PA 17105-8468	Asbestos Notification DEP Bureau of Air Quality 400 Market Street – 12 th floor Harrisburg PA 17101	Asbestos NESHAP Coordinator (3WC32) U.S. EPA Region III 1650 Arch Street Philadelphia PA 19103

The DEP Air Quality Program staff will review the DEP Application for Open Burning Exception for Fire Fighting Instruction and the Asbestos Notification Form, make a site visit if appropriate, and if everything is correct, issue a letter approving the application.

- B. Training in or at a Permanent Fire Fighting Structure or Site:** The administrator of a permanent fire fighting structure or site shall provide notice, in writing, of the burn schedule to the DEP Air Quality Program Office for the county in which the site is located (see list above) prior to the start of the training season. The written notice shall include the dates of the burn days and type of burns to be conducted for the season. The administrator of a permanent fire fighting facility may use this form if desired to fulfill the requirements to provide notice to the DEP Air Quality Program by completing items 1 through 4f and attaching a complete list of burn days and types of burns. The DEP Air Quality Program Office shall be notified in writing of changes to the schedule at least ten (10) business days before the training will take place.
- C. Submission and Approval Process for other forms of Fire Fighting Training involving open fire:** Emergency service organizations conducting other forms of training using open fire for the purpose of developing competency and proficiency in fire suppression shall complete items 1 through 4 of the DEP Application for Open Burning Exception for Fire Fighting Instruction and submit the application to the DEP Air Quality Program Office for the county in which the training is scheduled to take place (see list above) at least ten (10) business days before the planned training. The DEP Air Quality Program staff will review the application and notify the applicant in writing of their decision.
- D. Fire Extinguisher Training:** Fire extinguisher training requires only a phone call to the appropriate DEP Air Quality Program Office at least ten (10) business days before the training, no written notice.

Instructions for Completing the DEP Application for Open Burning Exception for Fire Fighting Instruction: All information placed on the Application **must be typed or printed except for signatures.**

1. Applicant Information – The name of the person applying for the exception must be printed on the first line. Your daytime telephone number, your title, the organization you represent, and your address and zip code must be entered on the appropriate lines. The Applicant **must** sign the application on the second line.
2. If other organizations will be participating in the fire fighting training, they must be listed on the application.
3. The name of the person who will have overall control of the fire fighting training must be listed, including their daytime telephone number, address, and zip code. If this is the same person as in 1, you may put “same”.
4. Site Information – The following information **must** be listed in the appropriate spaces on the Application.
 - a. The street address and town of the site where the fire fighting training will take place.
 - b. Clear and concise directions to the fire fighting training site.
 - c. The date(s) and time(s) that the training will be conducted.
 - d. What type of structure is to be burned? If other, please describe.
 - e. The distance to the nearest neighboring structure and the neighboring structure’s type.
 - f. The name of and distance to the nearest stream or body of water.
 - g. The name of the owner of the structure to be burned, their daytime telephone number, address, and zip code. The owner **must** sign and date the Application where indicated.
5. Asbestos Abatement Information –
 - a. Has the original Asbestos Abatement and Demolition/Renovation Notification Form (DEP Form 2700-FM-AQ0021) been submitted to DEP, with a copy to the U.S. EPA? If so, on what date was it submitted?
 - b. If **not**, the original signed Asbestos Abatement and Demolition/Renovation Notification Form **must** be submitted to DEP, with a copy to the U.S. EPA, for each and every acquired structure, *at least 10 working days* prior to the date of the fire fighting training. However, to insure timely processing of the Application for Open Burning Exception and to avoid a possible delay of the scheduled training, the Department recommends that the Asbestos Abatement Form be submitted to DEP at the same time as the DEP Application for Open Burning Exception for Fire Fighting Training is submitted to the PSFA Field Supervisor. *Please write “Fire Fighting Training” in box 1 of the Asbestos Abatement Form.*

Notice: An Asbestos Abatement and Demolition/Renovation Notification Form must be submitted for each and every structure acquired or used for fire fighting training, regardless of type of structure. A certified building inspector trained in asbestos inspection must inspect the structure. Blocks 10, 25, and 26 of the Asbestos Abatement and Demolition/Renovation Notification Form must be completed and signed.
 - c. A written statement signed by the owner or operator of the structure must be attached to the Application for Open Burning Exception for Fire Fighting Instruction form. This statement must either identify what asbestos-containing material (floor tile, roofing, etc.) is present and state that all asbestos-containing material will be removed and properly disposed of before the fire fighting training takes place, or state that there is no asbestos-containing material in or on the structure.
6. State Fire Academy Information – The following information is required for review and approval of the Application by the OSFC/PSFA Field Supervisor.
 - a. The Fire Chief must sign and date the Application for Open Burning Exception.
 - b. Print the name of the Lead Instructor and his/her daytime telephone number. If the organization is not sure who will be the Lead Instructor, they should contact an Educational Training Agency supporting their county and request a Lead Instructor. This will require that the PA State Fire Academy’s “Local Level Course Application” be submitted to an Educational Training Agency before filing the Application for Open Burning Exception (see Step 1 under Part A. Submission and Approval Process for use of an Acquired Structure).
 - c. Indicate if all notifications have been made to the local or state police, neighbors, 911 center, and utilities.
 - d. List the combustible materials and quantities to be used to ignite the training fires.
 - e. List the type of training or the PSFA course title of the class being conducted, e.g. Pa Essentials of Fire Fighting – Module I or Structural Burn Session, and justification for the training.



2700-PM-AQ0002 Rev 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

APPLICATION FOR OPEN BURNING EXCEPTION FOR FIRE FIGHTING INSTRUCTION

Please see the attached instructions for completing, submitting, and processing the Application for Open Burning Exception for Fire Fighting Instruction for assistance in filling out this form. You may either mail or fax the Application to the appropriate office. Always confirm receipt of faxes.

1. Name of Applicant (Print): Phone No:
Applicant's Signature: Title:
Representing: (Name of Training School, VFD, etc.)
Mailing Address: Zip Code:

2. Name of other participating parties:

3. Name of person in charge: Phone No.
Mailing address: Zip code:

4. a. Street address and town of site:
b. Directions to site (from nearest major crossroads):

c. Date(s) and time(s) of training:

d. Type of structure to be burned: Commercial Industrial Institutional/Residential Public Other
If other, please describe:

e. The distance from proposed burning site to nearest neighboring structure is feet.
Nearest structure is: Residential Commercial Industrial Institutional Public

f. The name of and distance to nearest stream or body of water:

g. Name of owner of structure/burn site: Phone No:
Mailing address of owner: Zip code:
Owner's signature: Date:

5. A completed, original, signed Asbestos Abatement and Demolition/Renovation Notification Form (DEP Form 2700-FM-AQ0021) must be submitted to DEP, with a copy to the U.S. EPA, for each and every acquired structure (including residential structures) to be used in the fire fighting training a minimum of ten working days prior to the scheduled date of the fire fighting training. However, to insure timely processing of the Application for Open Burning Exception for Fire Fighting Instruction and to avoid a possible delay in the scheduled training, the Department recommends that the Asbestos Notification Form be submitted to DEP at the same time as the Application for Open Burning Exception for Fire Fighting Instruction is submitted to the PSFA Field Supervisor. Please write the words "Fire Fighting Training" in box 1 of the Asbestos Abatement Form to assist in proper processing of the form. A certified building inspector trained in asbestos inspection must inspect the structure.

5. a. Has a completed, original, signed Asbestos Abatement and Demolition/Renovation Notification Form been submitted to DEP, with a copy to the U.S. EPA? Yes No If yes, Date Submitted: _____
- b. If an Asbestos Abatement Form for the acquired structure has **not** been submitted, submit the completed, original, signed Asbestos Abatement Form to DEP and the copy to U.S. EPA at these addresses:

DEP Regular Mail	DEP Overnight/Express Mail/Hand Delivery	U.S. EPA
Asbestos Notification DEP Bureau of Air Quality PO Box 8468 Harrisburg PA 17105-8468	Asbestos Notification DEP Bureau of Air Quality 400 Market Street – 12 th Harrisburg PA 17101	Asbestos NESHAP Coordinator (3WC32) U.S. EPA Region III Arch Street Philadelphia PA 19103

- c. **A written statement signed by the owner or operator of the structure that identifies the asbestos-containing material (or lack thereof) and a guarantee of its removal and proper disposal must be attached to this form.**

6. This fire fighting training activity must be part of the PSFA local level training program.

- a. Responsible Fire Chief's signature: _____ Date: _____
- b. Name of Lead Certified Instructor (Print): _____ Telephone No.: _____
- c. Local/state police notified? Yes No Neighbors notified? Yes No
 911 Center notified? Yes No Utilities notified? Yes No
- d. Note all combustible materials and quantities to be used during the training. List the number of fires to be set using each type of combustible for each fire fighting training exercise:

- e. Specific type of training to be conducted (or PSFA Course Title) and justification for training:

It shall be understood that at the time and point the fire fighting training is concluded, all fires must be completely extinguished. It shall be the building owner's responsibility to properly demolish and dispose of the remains.

This open burning exception is valid only for the dates specified on the application.

FOR OSFC USE ONLY

- Approved Disapproved

PA State Fire Academy Representative Signature: _____ Date: _____

The open burning exception is not valid without approval by the DEP. See 25 Pa. Code §129.14(c)(2).

FOR DEP USE ONLY

- Approved Disapproved

Reviewed by: _____ Date: _____

Appendix B



SUBJECT: Request for Live Fire/Smoke Drill
TO: _____, Field Supervisor
FROM: _____, Local Level Instructor
DATE: _____

I request permission to conduct a LIVE FIRE TRAINING/LIVE SMOKE (Not SBS) drill at
_____ on _____
(location) (county) (date)
at _____ until _____
(starting time) (approximate end time)

I request to have the following Suppression Level Instructors assigned as:

<u>NAME</u>	<u>POSITION</u>
_____	Lead Instructor
_____	Safety Officer
_____	RIT Officer
_____	Ignition Officer
_____	Asst. Instructor
_____	Asst. Instructor
_____	Asst. Instructor

There will be approximately _____ students at the drill. We are planning on using _____ hose lines.

Educational Training Agency _____

Lead Instructor Signature _____

Appendix C

Live Fire Check List

- I. SITE INSPECTION DATE/INITIAL
 - A. Building is structurally stable _____
 - B. Utilities Disconnected _____
 - C. Exposures will be in no danger _____
 - D. Water supply will be adequate _____
 - E. Effects of smoke on surrounding area _____
 - F. Floor plan is sketched for briefings _____

- II. PRIOR TO BURN
 - A. Site inspection completed _____
 - B. Owner/Occupant release signed and notarized _____
 - C. Municipal Burning Permit/DEP approval _____
 - D. Authorization from State Fire Academy Field Supervisor _____

- III. SELECTION OF INSTRUCTORS
 - A. Assistant Instructors/Safety Officer appointed _____

- IV. NOTIFICATIONS
 - A. Dispatcher _____
 - B. Police (if necessary) _____
 - C. Students _____
 - D. Instructors _____
 - E. Safety Officer _____

- V. BRIEFINGS
 - A. Instructors _____
 - B. Students _____

- VI. DRILL PREPARATION
 - A. Hose lines (Attack, Backup, Safety) _____
 - B. Danger Zone marked _____
 - C. Ambulance and Apparatus placed _____
 - D. P.P.E. Inspection list completed (Appendix D) _____
 - E. Personnel accountability system in place _____

Lead Instructor: _____ Date: _____
Signature and Print

Safety Officer: _____ Date: _____
Signature and Print

Appendix D

**Pennsylvania State Fire Academy
Personal Protective Equipment – Inspection List**

Inspection Instructions

This inspection checklist should be used for routine inspection of structural fire fighting clothing.

This list is not a substitute for professional evaluation of the clothing.

To properly inspect the garment you should separate the liner from the shell.

Use the check off list to ensure that all critical areas are reviewed.

If an item is not applicable for the garment, then draw a single line through the item.

The list continues on the rear of this document.

Also provided is a space to record the name of the garment user, the type material and the date and name of the inspector.

Coat Inspection

	Accept	Not Accept
Shell		
• Contamination	<input type="checkbox"/>	<input type="checkbox"/>
• Tears/ Holes/Fraying	<input type="checkbox"/>	<input type="checkbox"/>
• Weakened Material	<input type="checkbox"/>	<input type="checkbox"/>
• Burns/Charring	<input type="checkbox"/>	<input type="checkbox"/>
Hardware		
• Snaps functional	<input type="checkbox"/>	<input type="checkbox"/>
• Zippers/ Closures/ Velcro Working	<input type="checkbox"/>	<input type="checkbox"/>
Liner		
• Thermal Damage Moisture Barrier or Inner Liner	<input type="checkbox"/>	<input type="checkbox"/>
• Moisture Barrier Delaminating	<input type="checkbox"/>	<input type="checkbox"/>
• Tears/Fraying of liners	<input type="checkbox"/>	<input type="checkbox"/>
Trim		
• Thermal Damage	<input type="checkbox"/>	<input type="checkbox"/>
• Torn/Frayed	<input type="checkbox"/>	<input type="checkbox"/>
• Visibility	<input type="checkbox"/>	<input type="checkbox"/>
Fit	<input type="checkbox"/>	<input type="checkbox"/>
Comments: _____		

Pants Inspection

	Accept	Not Accept
Shell		
• Contamination	<input type="checkbox"/>	<input type="checkbox"/>
• Tears/ Holes/Fraying	<input type="checkbox"/>	<input type="checkbox"/>
• Weakened Material	<input type="checkbox"/>	<input type="checkbox"/>
• Burns/Charring	<input type="checkbox"/>	<input type="checkbox"/>
Hardware		
• Snaps functional	<input type="checkbox"/>	<input type="checkbox"/>
• Zippers/ Closures/ Velcro Working	<input type="checkbox"/>	<input type="checkbox"/>
Liner		
• Thermal Damage Moisture Barrier or Inner Liner	<input type="checkbox"/>	<input type="checkbox"/>
• Moisture Barrier Delaminating	<input type="checkbox"/>	<input type="checkbox"/>
• Tears/Fraying of liners	<input type="checkbox"/>	<input type="checkbox"/>
Trim		
• Thermal Damage	<input type="checkbox"/>	<input type="checkbox"/>
• Torn/Frayed	<input type="checkbox"/>	<input type="checkbox"/>
• Visibility	<input type="checkbox"/>	<input type="checkbox"/>
Fit	<input type="checkbox"/>	<input type="checkbox"/>
Comments: _____		

Helmet Inspection

	Accept	Not Accept
Shell		
• Contamination	<input type="checkbox"/>	<input type="checkbox"/>
• Cracks/ Holes Weakened Material	<input type="checkbox"/>	<input type="checkbox"/>
• Burns/Charring	<input type="checkbox"/>	<input type="checkbox"/>
Hardware		
• Adjustments Functional	<input type="checkbox"/>	<input type="checkbox"/>
Liner		
• Thermal Damage	<input type="checkbox"/>	<input type="checkbox"/>
• Ear Flaps Functional	<input type="checkbox"/>	<input type="checkbox"/>
• Tears/Fraying of liners	<input type="checkbox"/>	<input type="checkbox"/>
Fit	<input type="checkbox"/>	<input type="checkbox"/>
Comments: _____		

Glove Inspection

	Accept	Not Accept
Liner		
• Moisture Barrier Delaminating	<input type="checkbox"/>	<input type="checkbox"/>
• Tears/Fraying of liners	<input type="checkbox"/>	<input type="checkbox"/>
Shell		
• Tears/ Holes/Fraying	<input type="checkbox"/>	<input type="checkbox"/>
Fit	<input type="checkbox"/>	<input type="checkbox"/>
Comments: _____		

Boot Inspection

	Accept	Not Accept
Shell		
• Contamination	<input type="checkbox"/>	<input type="checkbox"/>
• Tears/ Holes/Fraying	<input type="checkbox"/>	<input type="checkbox"/>
• Weakened Material	<input type="checkbox"/>	<input type="checkbox"/>
• Burns/Charring	<input type="checkbox"/>	<input type="checkbox"/>
Hardware		
• Snaps functional	<input type="checkbox"/>	<input type="checkbox"/>
• Zippers/ Closures/ Velcro Working	<input type="checkbox"/>	<input type="checkbox"/>
Liner		
• Thermal Damage Moisture Barrier or Inner Liner	<input type="checkbox"/>	<input type="checkbox"/>
• Moisture Barrier Delaminating	<input type="checkbox"/>	<input type="checkbox"/>
• Tears/Fraying of liners	<input type="checkbox"/>	<input type="checkbox"/>
Fit	<input type="checkbox"/>	<input type="checkbox"/>
Comments: _____		

Hood Inspection

	Accept	Not Accept
• Tears/ Holes/Fraying	<input type="checkbox"/>	<input type="checkbox"/>
Fit	<input type="checkbox"/>	<input type="checkbox"/>
Comments: _____		

Additional Comments: _____

Name of User: _____

Serial Numbers: Coat _____ Pants _____ Helmet _____

Inspection Date: _____

Inspected By: _____ (Print)

Inspected By: _____ (Signature)

Appendix E

Vehicle Fires

Title 18, Crimes Code, Section 3301(i),

- A. Provides that a person may burn or explode their own vehicle if, at least 48 hours in advance, they file a sworn statement of such planned destruction with the nearest Pennsylvania State Police installation.
- B. The written, sworn statement shall certify the following:
 - 1. That the person making the statement is the lawful titleholder of the vehicle.
 - 2. That the vehicle is free of any encumbrances.
 - 3. That there is no insurance covering loss by fire or explosion, or both, on the vehicle.
- C. When any person delivers a written, sworn statement as described above, the receiving member shall:
 - 1. Verify the identity of the presenter and/or maker of the statement.
 - 2. Review the contents of the statement for accuracy and completeness.
 - 3. File the statement, in date order, in the Station's general file, in a separate folder designated for these statements.
- D. The proper filing of this written, sworn statement is a "defense to prosecution" for other specified subsections of the same chapter.

DEP regulations:

Submission and Approval Process for other forms of Fire Fighting Training involving open fire: Emergency service organizations conducting other forms of training using open fire for the purpose of developing competency and proficiency in fire suppression shall complete items 1 through 4 of the DEP Application for Open Burning Exception for Fire Fighting Instruction and submit the application to the DEP Air Quality Program Office for the county in which the training is scheduled to take place (see list above) at least ten (10) business days before the planned training. The DEP Air Quality Program staff will review the application and notify the applicant in writing of their decision.

Fire Extinguisher Training

DEP Regulations:

Fire Extinguisher Training: Fire extinguisher training requires only a phone call to the appropriate DEP Air Quality Program Office at least ten (10) business days before the training, no written notice required.

Appendix F

Rehab/Weather Concerns:

Review the following chart identifying key problem areas etc

	Symptoms	Signs:
Heat Stroke	Chills, Restlessness, Irritability	Euphoria, Red Face, Disorientation, Hot, Dry Skin, Erratic Behavior, Collapse, Shivering, Unconsciousness, Convulsions, Temperature of 104 or greater
Heat Exhaustion	Fatigue Weakness, Blurred Vision, Dizziness, Headache	High Pulse Rate, Profuse Sweating Low blood Pressure, Insecure gait Pale face, Collapse, Body Temperature
Dehydration	No Early Symptoms Fatigue/Weakness Dry Mouth	Loss of work capacity Increased response time
Heat Syncope	Blurred Vision, Fainting, Normal Temperature	Brief Fainting or near fainting behavior
Heat Cramps	Painful muscle cramps especially in the abdomen	Incapacitating pain in the muscle

Appendix G

Rapid Intervention Team

I. RIT Duties:

- A. RIT Officer will answer directly to the Incident Commander (IC) and shall remain with the RIT at all times during the evolution
- B. The RIT Officer will verify all tools are in place and all team members are ready (including PPE, SCBA and accountability) for service
- C. **Two** (2) members of the RIT will don SCBA facemasks, and the remaining members will not
- D. RIT shall be in place ready for service prior to any instructor/ignition officer entering the Burn Building Structure to start a fire, and remain in place until every instructor and student has cleared the Burn Structure and PAR is verified

II. Suggested Training:

Rapid Intervention Team Exercises (ZRITE)
or
Interior Firefighter (ELIF) (or equivalent)
and
Structural Burn Session (SBS)
and
Structural Fire Rescue (SFR)

III. Equipment

Tools and equipment (at a minimum-listed) will be kept in the RIT Staging Area with the RIT and will not be used by any other team for any purpose except firefighter rescue, safety or rehab. NO EXCEPTIONS!

- 1. 1 charged 1 ¾" hose line
- 2. 2 sets of irons
- 3. 1 bagged rope
- 4. 1 stokes basket
- 5. 1 20ft. length of webbing

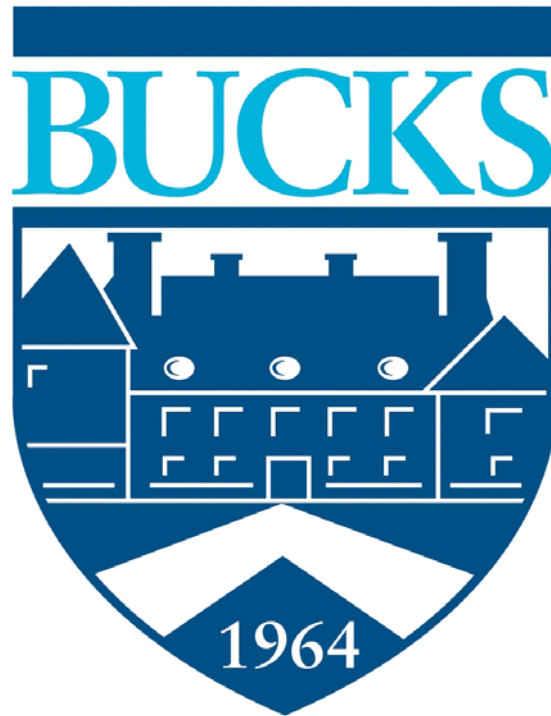
Appendix VII

Due to copyright laws you will need to purchase your own copy of NFPA 1403-2007. A copy is on file at the Doylestown Training Facility at all times.

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Bucks County Community College
Department of Public Safety Training & Certification



Accredited by:



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