

# FLAIM

# Trainer

---

Scenario Descriptions and Learning Outcomes

---

Updated: R2 2021



Environment	Scenarios	Page
Airbase	C17 Engine Fire	4
	C17 Engine Fire (highlighted approach zones)	4
	F16 Brake Fire	5
	F18 Hard Landing – Running Fuel Fire	5
	F35 Brake Fire	6
	F35 Engine Fire	6
Airbase Night	PC-21 Brake Fire	7
	Blackhawk Engine Fire	8
	C17 Engine Fire	8
	F18 Hard Landing – Running Fuel Fire	9
	F35 Brake Fire	9
Airport	F35 Engine Fire	10
	Boeing 777 Interior Fire	11
Airport Night	Boeing 777 Brake Fire	12
	Boeing 777 Engine Fire	12
Bushfire Ember Attacks	Ember Attack Threatening Property	13
Bushfire Preparedness	Property Emergency Prepare	14
Bushfire Spot Fires	Grassfire Threatening Property	15
Docks	Container Fire	16
	Container Fire - Indirect Attack Horizontal	16
	Container Fire - Indirect Attack Vertical	17
	Crane Rammed by Cargo Ship	17
	Gantry Crane Fire	18
Exurb	Grassfire	19
	Backhoe Ruptures Gas Line	19
	Backhoe Ignites Gas Line	20
	Bonfire	20
Highrise	Bedroom Fire	21
Highway	Hazmat Size-up	22
	MVA Fire	22
	MVA Running Fuel Fire	23
	Tunnel MVA Fire	23
Residential	BBQ Fire	24
	Bedroom Fire	24
	Garage Fire	25
	Kitchen Fire	25
	360° size-up	26
Mining	Large Haul Truck Engine Fire	27
	Mine Truck Wheel Fire	27
	Running Fuel Fire	28
	Utility Truck Fire	28
National Parks	National Parks - Cabin Structure Fire	29
	National Parks - RV Exterior Fire	29
Naval	Galley Fire	30
	Passageway Electrical Fire	30
	Sleeping Compartment Fire	31

<b>Environment</b>	<b>Scenarios</b>	<b>Page</b>
Petrol Station	Bulk Storage - Propane/LPG BLEVE	32
	Car Fire	32
	Car Running Fuel Fire	33
	Parapet Wall Collapse	33
Refinery	Burst Pipe Running Fuel Fire	34
Rural	Grassfire	35
	Backhoe Fire	35
	Hay Shed Fire	36
Rural - USA	Backhoe Fire	37
	Barn Fire	37
	Wildfire	38
Urban - USA	New York - Electric Vehicle Fire	39
Warehouse	Tilt Construction Wall Collapse	40

## C17 Engine Fire

### Scenario Description

A C17 Aircraft is stationary on a runway with a fully involved engine fire. The fire can be smothered with the correct application of water or foam.



### Learning Outcomes

- Demonstrate hose handling techniques
- Discuss foam usage, secondary damage and extinguishing medium
- Demonstrate and discuss word-back and situation reporting
- Demonstrate correct smothering technique
- Demonstrate and discuss aircraft approach procedures
- Describe pilot and multi-agency considerations/communications
- Describe aircraft evacuation procedures
- Describe additional resourcing requirements
- Expected time duration and reporting to Air Traffic Control
- Demonstrate and discuss dynamic risk assessment
- Discuss aircraft shutdown and armaments/decoy safety procedure

## C17 Engine Fire (highlighted approach zones)

### Scenario Description

A C17 Aircraft is stationary on a runway with a fully involved engine fire. The fire can be smothered with the correct application of foam.

This scenario visually highlights the incorrect approach zones.



### Learning Outcomes

- Demonstrate dynamic risk assessment
- Demonstrate hose handling techniques
- Describe foam usage, secondary damage and extinguishing medium
- Demonstrate and describe word-back and situation reporting
- Demonstrate correct smothering technique
- Demonstrate and describe aircraft approach procedures
- Describe pilot and multi-agency considerations/communications (including Air Traffic Control)
- Describe evacuation procedures
- Describe additional resourcing requirements
- Expected time duration and reporting BA Entry Control
- Describe aircraft shutdown and armaments/decoy safety procedure

## F16 Brake Fire

### Scenario Description

An armed F16 Aircraft is stationary on a runway with a brake fire. The fire can be smothered with the correct application of water or foam.



### Learning Outcomes

- Describe and demonstrate correct aircraft approach procedures
- Demonstrate hose handling techniques
- Describe foam usage, secondary damage and extinguishing medium
- Demonstrate correct smothering technique
- Describe word-back and situation reporting
- Describe pilot and multi-agency considerations/communications
- Describe aircraft evacuation procedures
- Describe additional resourcing requirements
- Describe expected time duration and reporting to Air Traffic Control
- Describe dynamic risk assessment
- Describe aircraft shutdown and armaments/decoy safety procedure

## F18 Hard Landing – Running Fuel Fire

### Scenario Description

An unarmed F18 Aircraft is stationary on a runway with a gear down landing and spreading running fuel fire. The fire can be smothered with the correct application of foam.



### Learning Outcomes

- Demonstrate hose handling techniques
- Discuss foam usage, secondary damage and extinguishing medium
- Demonstrate and discuss word-back and situation reporting
- Demonstrate correct smothering technique
- Demonstrate and discuss aircraft approach procedures
- Describe pilot and multi-agency considerations/communications
- Describe aircraft evacuation procedures
- Describe additional resourcing requirements
- Expected time duration and reporting to Air Traffic Control
- Demonstrate and discuss dynamic risk assessment
- Discuss aircraft shutdown and armaments/decoy safety procedure

## F35 Brake Fire

### Scenario Description

An unarmed F35 Aircraft is stationary on a runway with a fully involved engine fire. The fire can be smothered with the correct application of water or foam.



### Learning Outcomes

- Demonstrate dynamic risk assessment
- Demonstrate hose handling techniques
- Describe foam usage, secondary damage and extinguishing medium
- Demonstrate and describe word-back and situation reporting
- Demonstrate correct smothering technique
- Demonstrate and describe aircraft approach procedures
- Describe pilot and multi-agency considerations/communications (including Air Traffic Control)
- Describe evacuation procedures
- Describe additional resourcing requirements
- Expected time duration and reporting BA Entry Control
- Describe aircraft shutdown and armaments/decoy safety procedure

## F35 Engine Fire

### Scenario Description

An unarmed F35 Aircraft is stationary on a runway with a fully involved engine fire. The fire can be smothered with the correct application of water or foam.



### Learning Outcomes

- Demonstrate dynamic risk assessment
- Demonstrate hose handling techniques
- Describe foam usage, secondary damage and extinguishing medium
- Demonstrate and describe word-back and situation reporting
- Demonstrate correct smothering technique
- Demonstrate and describe aircraft approach procedures
- Describe pilot and multi-agency considerations/communications (including Air Traffic Control)
- Describe evacuation procedures
- Describe additional resourcing requirements
- Expected time duration and reporting BA Entry Control
- Describe aircraft shutdown and armaments/decoy safety procedure

**PC21 Brake Fire****Scenario Description**

A PC21 Aircraft is stationary on a runway with a brake fire. The fire can be smothered with the correct application of water or foam.

**Learning Outcomes**

- Demonstrate dynamic risk assessment
- Describe and demonstrate aircraft approach procedures
- Demonstrate hose handling techniques
- Discuss foam usage, secondary damage and extinguishing medium
- Discuss word-back and situation reporting
- Demonstrate correct smothering technique
- Describe pilot and multi-agency considerations/communications
- Describe aircraft evacuation procedures
- Describe additional resourcing requirements
- Expected time duration and reporting to Air Traffic Control
- Demonstrate and discuss dynamic risk assessment
- Discuss aircraft shutdown and armaments/decoy safety procedure

## Blackhawk Engine Fire

### Scenario Description

A Blackhawk aircraft is stationary on a landing pad with a fully involved engine fire. The fire can be smothered with the correct application of suppressant.



### Learning Outcomes

- Demonstrate dynamic risk assessment
- Demonstrate hose handling techniques
- Describe foam usage, secondary damage, and extinguishing medium
- Demonstrate and describe word-back and situation reporting
- Demonstrate correct smothering technique
- Demonstrate and describe aircraft approach procedures
- Describe pilot and multi-agency considerations/communications (including Air Traffic Control)
- Describe evacuation procedures
- Describe additional resourcing requirements
- Expected time duration and reporting BA Entry Control
- Describe aircraft shutdown and armaments/decoy safety procedure

## Airbase Night - C17 Engine Fire

### Scenario Description

A C17 Aircraft is stationary on a runway with a fully involved engine fire. The fire can be smothered with the correct application of water or foam.



### Learning Outcomes

- Demonstrate hose handling techniques
- Discuss foam usage, secondary damage and extinguishing medium
- Demonstrate and discuss word-back and situation reporting
- Demonstrate correct smothering technique
- Demonstrate and discuss aircraft approach procedures
- Describe pilot and multi-agency considerations/communications
- Describe aircraft evacuation procedures
- Describe additional resourcing requirements
- Expected time duration and reporting to Air Traffic Control
- Demonstrate and discuss dynamic risk assessment
- Discuss aircraft shutdown and armaments/decoy safety procedure

## Airbase Night - F18 Hard Landing – Running Fuel

### Scenario Description

An unarmed F18 Aircraft is stationary on a runway with a gear down landing and spreading running fuel fire. The fire can be smothered with the correct application of foam.



### Learning Outcomes

- Demonstrate hose handling techniques
- Discuss foam usage, secondary damage and extinguishing medium
- Demonstrate and discuss word-back and situation reporting
- Demonstrate correct smothering technique
- Demonstrate and discuss aircraft approach procedures
- Describe pilot and multi-agency considerations/communications
- Describe aircraft evacuation procedures
- Describe additional resourcing requirements
- Expected time duration and reporting to Air Traffic Control
- Demonstrate and discuss dynamic risk assessment
- Discuss aircraft shutdown and armaments/decoy safety procedure

## F35 Brake Fire

### Scenario Description

An unarmed F35 Aircraft is stationary on a runway with a fully involved engine fire. The fire can be smothered with the correct application of water or foam.



### Learning Outcomes

- Demonstrate dynamic risk assessment
- Demonstrate hose handling techniques
- Describe foam usage, secondary damage and extinguishing medium
- Demonstrate and describe word-back and situation reporting
- Demonstrate correct smothering technique
- Demonstrate and describe aircraft approach procedures
- Describe pilot and multi-agency considerations/communications (including Air Traffic Control)
- Describe evacuation procedures
- Describe additional resourcing requirements
- Expected time duration and reporting BA Entry Control
- Describe aircraft shutdown and armaments/decoy safety procedure

**F35 Engine Fire****Scenario Description**

An unarmed F35 Aircraft is stationary on a runway with a fully involved engine fire. The fire can be smothered with the correct application of water or foam.

**Learning Outcomes**

- Demonstrate dynamic risk assessment
- Demonstrate hose handling techniques
- Describe foam usage, secondary damage and extinguishing medium
- Demonstrate and describe word-back and situation reporting
- Demonstrate correct smothering technique
- Demonstrate and describe aircraft approach procedures
- Describe pilot and multi-agency considerations/communications (including Air Traffic Control)
- Describe evacuation procedures
- Describe additional resourcing requirements
- Expected time duration and reporting BA Entry Control
- Describe aircraft shutdown and armaments/decoy safety procedure

**Boeing 777 Interior Fire****Scenario Description**

A Boeing 777 Aircraft is stationary on a runway with a fully involved engine fire. The fire can be smothered with the correct application of foam.

**Learning Outcomes**

- Discuss neutral plane awareness and impeded visibility
- Demonstrate hose handling techniques
- Discuss water usage, secondary damage, ventilation and extinguishing medium
- Demonstrate and describe word-back and situation reporting
- Describe pilot and multi-agency considerations/communications (including Air Traffic Control)
- Describe additional resourcing requirements
- Expected time duration and reporting BA Entry Control
- Describe aircraft shutdown and armaments/decoy safety procedure
- Demonstrate and describe dynamic risk assessment

## Boeing 777 Brake Fire

### Scenario Description

A wide body aircraft has landed and stopped on the runway with a fully involved brake/tire fire. Potential exposures on wing of aircraft. The fire can be extinguished by the correct application of foam.



### Learning Outcomes

- Demonstrate hose handling techniques
- Demonstrate correct smothering techniques
- Discuss water usage, secondary damage and extinguishing medium
- Demonstrate and describe word-back and situation reporting
- Discuss aircraft approach procedures
- Describe pilot and multi-agency considerations/communications (including Air Traffic Control)
- Demonstrate and describe evacuation procedures
- Describe additional resourcing requirements
- Expected time duration and reporting BA Entry Control
- Describe aircraft shutdown and armaments/decoy safety procedure
- Demonstrate and describe dynamic risk assessment

## Boeing 777 Engine Fire

### Scenario Description

A Boeing 777 Aircraft is stationary on a runway with a fully involved engine fire. The fire can be smothered with the correct application of foam.



### Learning Outcomes

- Demonstrate hose handling techniques
- Discuss water usage, secondary damage and extinguishing medium
- Demonstrate and describe word-back and situation reporting
- Describe pilot and multi-agency considerations/communications (including Air Traffic Control)
- Demonstrate and describe evacuation procedures
- Describe additional resourcing requirements
- Expected time duration and reporting BA Entry Control
- Describe aircraft shutdown safety procedure
- Demonstrate and describe dynamic risk assessment

## Ember Attack Threatening Property

### Scenario Description

A distant bushfire unleashes an ember attack on a house in a rural property (Australian Setting). Random spot fires flare up and must be controlled. The firefighter has about two minutes to safeguard the property before an ember attack sets in. To safeguard a flammable the firefighter should aim at it so the laser pointer appears, and then hold down the button.



### Learning Outcomes

- Understanding how fire impacts properties
- Understand how exposures influence fire spread to structures
- Removing exposures and preparing property for fire
- Word-back and situation report training
- Resourcing requirements
- Expected time duration and reporting to command
- Dynamic risk assessment
- Priority of asset protection
- Safe anchor points and protection from radiant heat

## Property Emergency Prepare

### Scenario Description

This scenario involves safeguarding a house against potential bushfire threats in a rural property (Australian Setting). To safeguard a flammable the firefighter should aim at it, so the laser pointer appears, and then hold down the button. The scenario will end successfully when key flammables and a reasonable proportion of others have been safeguarded.



### Learning Outcomes

- Hose handling techniques
- Discussion on extinguishing medium
- Word-back and situation report training
- Correct water application technique
- Resourcing requirements
- Expected time duration and reporting to command
- Dynamic risk assessment
- Priority of asset protection
- Approach and extinguishing technique
- Prioritisation of attack
- Safe anchor points and protection from radiant heat

**Grassfire Threatening Property****Scenario Description**

A wildfire approaching a house in a rural property (Australian Setting). The fire has random propagation and ignited tree crowns will emit embers. The firefighter has about two minutes to safeguard the property before the fire arrives. To safeguard a flammable the firefighter should aim at it so the laser pointer appears, and then hold down the button.

**Learning Outcomes**

- Hose handling techniques
- Discussion on extinguishing medium
- Word-back and situation report training
- Correct water application technique
- Resourcing requirements
- Expected time duration and reporting to command
- Dynamic risk assessment
- Priority of asset protection
- Approach and extinguishing technique
- Prioritisation of attack
- Safe anchor points and protection from radiant heat

## Container Fire

### Scenario Description

A fire in a shipping container in a dockside environment. No exposures at risk. Trainee can learn about neutral plane, gas cooling technique. Flashover can occur if gasses are not cooled adequately.



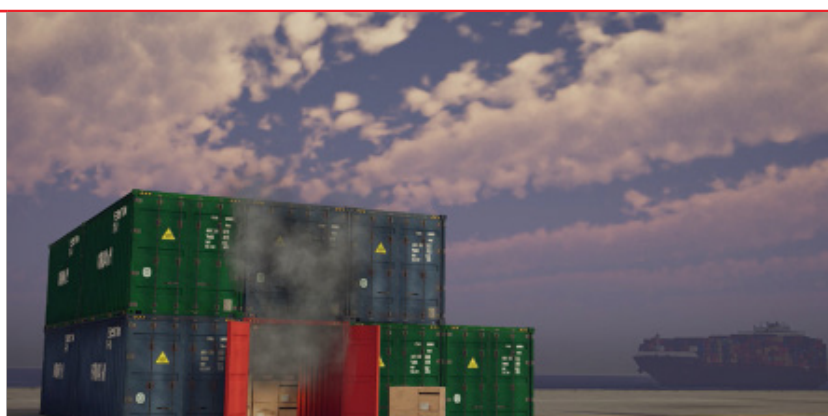
### Learning Outcomes

- Demonstrate hose handling techniques
- Describe appropriate extinguishing medium
- Demonstrate dynamic risk assessment
- Demonstrate and describe word-back and situation reporting
- Demonstrate correct water/foam application technique – eg. bounce water off container sides
- Describe additional resourcing requirements
- Describe expected time duration and reporting BA Entry Control
- Describe isolation of fixed installations
- Describe manifest/hazmat/cargo inventory considerations
- Demonstrate positioning
- Describe neutral plane appreciation
- Describe how gas cooling lowers neutral plane temporarily reducing visibility
- Describe flashover and the dangers of superheated gasses

## Container Fire: Indirect Attack Horizontal

### Scenario Description

This is a fire in a shipping container that can only be attacked indirectly via one side of the container. The trainee must bounce suppressant off the side of the container and use steam to extinguish the fire.



### Learning Outcomes

- Demonstrate method of bouncing water (indirect attack) onto seat of fire
- Describe how this technique could be applied in fires in local environment
- Describe how water expands into steam and the mechanism that assists in suppressant

## Container Fire: Indirect Attack Vertical

### Scenario Description

This is a fire in a shipping container that can only be attacked indirectly via the container ceiling. The trainee must bounce suppressant off the ceiling and use steam to extinguish the fire.



### Learning Outcomes

- Demonstrate correct method of bouncing water (indirect attack) onto seat of fire
- Describe how this technique could be applied in fires in local environment
- Describe how water expands into steam and the mechanism that assists in suppressant

## Crane Rammed by Cargo Ship

### Scenario Description

A cargo ship has rammed a loading crane, upending it, and creating multiple fires from the resulting impact with shipping containers. The trainee must carefully navigate a precarious and tricky environment to reach and suppress these fires.



### Learning Outcomes

- Demonstrate command and control of a large and complex environment
- Demonstrate approach and 360° size-up
- Demonstrate correct hose handling and suppressant choice
- Provide dynamic risk assessment
- Demonstrate correct radio calls
- Describe multi agency considerations
- Describe risk of further structural failure
- Describe possible further resources

## Gantry Crane Fire

### Scenario Description

A fire has ignited in the hoisting motor at the top of a gantry crane and has spread to the surrounding walkway and down the wire ropes leading to the hook. The trainee must ascend to the top of the crane and smother the fire. It can be assumed that the power has already been disconnected.



### Learning Outcomes

- Demonstrate safe approach
- Demonstrate 360° size up
- Demonstrate working at heights procedures
- Demonstrate hose handling and fire suppressant techniques
- Demonstrate radio calls
- Describe local procedures (working at heights)
- Describe risks and exposures
- Describe potential for catastrophic failure

## Grassfire

### Scenario Description

Residential neighbourhood with rural/urban interface. A grassfire is spreading at the rear of the property. Enables a first on scene crew member to do a 360° size-up of the property, isolating services, determining plan of attack and correct and safe approach to the fire area.



### Learning Outcomes

- Demonstrate dynamic risk assessment
- Demonstrate hose handling techniques
- Discuss appropriate extinguishing medium
- Demonstrate and discuss word-back and situation reporting
- Demonstrate correct water application technique
- Describe additional resourcing requirements
- Describe isolation of services (gas electricity)
- Expected time duration and reporting to command
- Discuss and demonstrate dangers of multi-story dwellings - falling roof tiles, basements, construction techniques
- Discuss service isolation
- Demonstrate and discuss what to look for in a 360° size-up

## Backhoe Ruptures Gas Line

### Scenario Description

A backhoe working on a housing construction site has ruptured a gas line pipe. There are gas leaks at the point of rupture as well as at two manholes further down the street. The trainee can bring these gas leaks under control by applying suppressant.



### Learning Outcomes

- Demonstrate correct application of water in a fog pattern
- Demonstrate correct approach and correct method of flushing gas from wastewater system
- Correct 360° size-up procedure
- Correct Radio calls
- Describe correct approach procedure for a hazardous material and characteristics of gas
- Further resources required to isolate the release
- Potential evacuation, importance of wind speed and direction
- Describe potential risks

## Backhoe Ignites Gas Line

### Scenario Description

A backhoe working on a housing construction site has ruptured a gas line pipe which has subsequently ignited into a large gas fire. This fire has engulfed the backhoe and is threatening to spread to the building site and construction materials. The trainee must protect the construction materials and control the spread of the fire until the gas is switched off, at which point the main gas fire can be extinguished.



### Learning Outcomes

- Demonstrate correct application of water in a fog pattern
- Demonstrate correct approach and correct method of flushing gas from waste water system
- Demonstrate correct 360° size-up procedure
- Demonstrate correct radio calls
- Demonstrate hose handling
- Demonstrate isolation of exposures
- Describe correct approach procedure for a hazardous material
- Describe the characteristics of gas
- Describe further resources required to isolate the release
- Ascertain potential evacuation
- Identify importance of wind speed and direction
- Successfully identify potential risks
- Identify risk of hydraulic cylinder explosion

## Bonfire

### Scenario Description

The trainee attends what initially looks from a distance like a vacant lot fire but is in fact residents hosting a bonfire. This is a 360° size-up scenario where trainees must follow procedure until they realize the exact nature of the threat.



### Learning Outcomes

- Demonstrate safe approach
- Demonstrate discussion with public
- Demonstrate radio calls
- Demonstrate correct extinguishing techniques
- Describe awareness of local bylaws around fires on public land
- Describe risks
- Describe further resources

## Bedroom Fire

### Scenario Description

A multi-story apartment building with a firefighter starting in the 11th floor stairwell. Firefighters are then tasked to climb to the 13th floor, open the door and find apartment 4. A fire is in one of the bedrooms.



### Learning Outcomes

- Demonstrate dynamic risk assessment
- Demonstrate correct hose handling techniques
- Describe appropriate extinguishing medium
- Demonstrate correct water application technique – e.g. pencilling trainer
- Demonstrate and describe word-back and situation reporting
- Describe additional resourcing requirements
- Expected time duration and reporting BA Entry Control
- Describe neutral plane appreciation
- Describe how gas cooling lowers neutral plane temporarily reducing visibility
- Describe flashover and the dangers of superheated gasses
- Describe isolation of services (gas/electricity)
- Describe dangers of multi-story dwellings (falling tiles and basements), internal layouts, construction techniques
- Demonstrate and describe dangers of multi-story dwellings - door opening/entry techniques

## Hazmat 360° Size-Up

### Scenario Description

The trainee is presented with a road accident rescue that involves several chemical drums and a casualty. This is a passive scenario that allows the trainee to experience this confronting event.



### Learning Outcomes

- Demonstrate and describe safe approach
- Demonstrate and describe dynamic risk assessment
- Demonstrate and describe decontamination procedures
- Assess if snatch rescue necessary
- Complete hazmat scenario/paperwork (offline)

## MVA Fire

### Scenario Description

Crew is presented with a three-vehicle accident (nose to tail). A sedan, electric vehicle and fuel tanker are all involved with the fire spreading from the first vehicle towards the tanker. Smoke is dark and it is windy. All three vehicles will ignite if left long enough, making it difficult to extinguish.



### Learning Outcomes

- Demonstrate hose handling techniques
- Discuss appropriate extinguishing medium
- Demonstrate word-back and situation reporting
- Demonstrate correct water application technique
- Describe additional resourcing requirements
- Expected time duration and reporting to command
- Demonstrate dynamic risk assessment
- Demonstrate and describe what to look for in a 360° size-up
- Demonstrate and describe difference in electric vehicle/gas/petrol
- car fire attack
- Demonstrate appropriate approach and extinguishing technique
- Describe risks posed by batteries, fuel cells, gas tanks, gas shocks and magnesium construction
- Describe prioritisation of attack

## MVA Running Fuel Fire

### Scenario Description

The trainee is presented with a road accident rescue that involves several chemical drums and a casualty. This is a passive scenario that allows the trainee to experience this confronting event.



### Learning Outcomes

- Demonstrate and describe safe approach
- Demonstrate and describe dynamic risk assessment
- Demonstrate and describe decontamination procedures
- Assess if snatch rescue necessary
- Complete hazmat scenario/paperwork (offline)

## Tunnel MVA Fire

### Scenario Description

Crew is presented with a three-vehicle accident (nose to tail). A sedan, electric vehicle and fuel tanker are all involved with the fire spreading from the first vehicle towards the tanker. Smoke is dark and it is windy. All three vehicles will ignite if left long enough, making it difficult to extinguish.



### Learning Outcomes

- Demonstrate hose handling techniques
- Discuss appropriate extinguishing medium
- Demonstrate word-back and situation reporting
- Demonstrate correct water application technique
- Describe additional resourcing requirements
- Expected time duration and reporting to command
- Demonstrate dynamic risk assessment
- Demonstrate and describe what to look for in a 360° size-up
- Demonstrate and describe difference in electric vehicle/gas/petrol car fire attack
- Demonstrate appropriate approach and extinguishing technique
- Describe risks posed by batteries, fuel cells, gas tanks, gas shocks and magnesium construction
- Describe prioritisation of attack

## BBQ Fire

### Scenario Description

The firefighter is presented with a fire at night in the terrace outside house number 48. Smoke can be seen from the street. A propane/LPG cylinder is on fire in the house's terrace area. Fire spreads rapidly to the entertaining area adjacent to the structure. After a short time, the entire terrace is on fire.



### Learning Outcomes

- Demonstrate hose handling techniques, dynamic risk assessment
- Demonstrate correct water application technique and positioning
- Successfully demonstrate word-back and situation reporting
- Describe equipment and PPE necessary
- Describe additional resourcing requirements
- Describe water usage, secondary damage and extinguishing medium
- Describe neutral plane appreciation
- Describe Isolation of services (gas/electricity)

## Bedroom Fire

### Scenario Description

Trainee starts at the front of the house and has to navigate upstairs. A fire has started in a bedroom on the second floor.



### Learning Outcomes

- Demonstrate dynamic risk assessment
- Demonstrate correct hose handling techniques
- Describe appropriate extinguishing medium
- Demonstrate correct water application technique – e.g. pencilling trainer
- Demonstrate and describe word-back and situation reporting
- Describe additional resourcing requirements
- Expected time duration and reporting BA Entry Control
- Describe neutral plane appreciation
- Describe how gas cooling lowers neutral plane temporarily reducing visibility
- Describe flashover and the dangers of superheated gasses
- Describe isolation of services (gas/electricity)
- Demonstrate and describe dangers of multi-story dwellings - door opening/entry techniques

## Garage Fire

### Scenario Description

The firefighter is presented with a house fire at number 48. Smoke can be seen from outside the garage. The garage can be entered by multiple paths. The fire spreads rapidly, and a smoke layer builds up quickly. After a short time, gasses start to burn.



### Learning Outcomes

- Hose handling techniques, dynamic risk assessment, correct water application technique, positioning, word-back and situation reporting.
- Equipment and PPE requirements
- Additional resourcing requirements
- Water usage, secondary damage and extinguishing medium
- Ventilation
- Expected time duration and BA Entry Control
- Neutral plane appreciation
- How gas cooling lowers neutral plane temporarily reducing visibility
- Flashover and dangers of superheated gasses
- Isolation of services (gas/electricity)
- Dangers of multi-story dwellings – door opening/entry techniques

## Kitchen Fire

### Scenario Description

A kitchen fire started from a fat fire spread into cabinetry. Smoky environment with the possibility of flashover/fully involved fire. Deep seated fire ideally used to train pencilling techniques and directing stream at the seat of the fire.



### Learning Outcomes

- Hose handling techniques
- Discussion on extinguishing medium
- Word-back and situation report training
- Correct water application technique - pencilling trainer
- Resourcing requirements
- Expected time duration and reporting to command
- Dynamic risk assessment
- Neutral plane appreciation
- Creation of gas during gas cooling lowers neutral plane temporarily reducing visibility
- Flashover and the dangers of superheated gasses
- Discussion on the isolation of services (gas electricity)
- Dangers of multi-story dwellings - falling roof tiles, basements, construction techniques

## 360° Size-Up

### Scenario Description

Residential neighbourhood with a wheelie bin / trash receptacle fire in the driveway of a multi-story home and a casualty in the rear yard. Possibility of fire spread to house. Enables a first on scene crew member to do a 360° size-up of the property, isolating services and determining plan of attack. This scenario is less about the fire and more about potential exposures, risks, and planning.



### Learning Outcomes

- Hose handling techniques
- Discussion on extinguishing medium
- Word-back and situation report training
- Correct water application technique
- Resourcing requirements
- Expected time duration and reporting to command
- Dynamic risk assessment
- Discussion on the isolation of services (gas, electricity)
- Dangers of multi-story dwellings - falling roof tiles, basements, construction techniques
- Service isolation
- What to look for in a 360° size-up

## Large Haul Truck Engine Fire

### Scenario Description

A fully involved engine fire on a large haul truck in an open cut mine.



### Learning Outcomes

- Hose handling techniques
- Discussion on extinguishing medium
- Word-back and situation report training
- Correct water application technique
- Resourcing requirements
- Expected time duration and reporting to command
- Dynamic risk assessment
- What to look for in a 360° size-up
- Truck fire attack
- Approach and extinguishing technique
- Risks due to batteries, fuel cells, gas tanks, gas shocks and magnesium construction
- Prioritisation of attack

## Mine Truck Wheel Fire

### Scenario Description

A tire fire on a large haul truck in an open cut mine. Tire is fully involved.



### Learning Outcomes

- Hose handling techniques
- Discussion on extinguishing medium
- Word-back and situation report training
- Correct water application technique
- Resourcing requirements
- Expected time duration and reporting to command
- Dynamic risk assessment
- What to look for in a 360° size-up
- Truck fire attack
- Safe personal approach and the dangers of approaching a large pressurised tire on fire.
- Approach and extinguishing technique
- Risks due to batteries, fuel cells, gas tanks, gas shocks and magnesium construction
- Prioritisation of attack

## Running Fuel Fire

### Scenario Description

The firefighter is presented with a pipe that is on fire in a mines fuel farm. The pipe has ruptured and is a pressure fed fuel fire. There is running fuel on the ground that is on fire.



### Learning Outcomes

- Demonstrate correct hose handling techniques and provide dynamic risk assessment
- Demonstrate correct water application technique and positioning
- Demonstrate word-back and situation reporting
- Describe appropriate extinguishing medium and additional resourcing requirements
- Describe expected time duration and reporting to command
- What to look for in a 360° size-up
- Describe prioritisation of attack (particularly exposures which may present a far greater risk than the existing fire)

## Utility Truck Fire

### Scenario Description

In this scenario trainees are presented with a mining utility vehicle engine fire in an open cut mine. Trainees need to move around the car extinguishing an often-stubborn fire using a direct aggressive attack.



### Learning Outcomes

- Hose handling techniques
- Discussion on extinguishing medium
- Word-back and situation report training
- Correct water application technique
- Resourcing requirements
- Expected time duration and reporting to command
- Dynamic risk assessment
- What to look for in a 360° size-up
- Car fire attack
- Safe personal approach and the dangers of approaching a large pressurised tire on fire.
- Approach and extinguishing technique
- Risks due to batteries, fuel cells, gas tanks, gas shocks and magnesium construction
- Prioritisation of attack
- Possibility of running fuel fire due to petrol/gas leak from plastic tank

## Cabin Structure Fire

### Scenario Description

The firefighter is presented with a log and stone cabin that is on fire. The fire can be seen from the beginning of the scenario and spreads rapidly.



### Learning Outcomes

- Demonstrate correct hose handling technique
- Provide dynamic risk assessment
- Demonstrate correct water application technique and positioning
- Demonstrate word back and situation reporting
- Describe equipment and PPE necessary and additional resourcing requirements
- Describe water usage, secondary damage and extinguishing medium
- Expected time duration and reporting to BA Entry Control
- Describe neutral plane appreciation
- Describe how gas cooling lowers neutral plane temporarily, reducing visibility
- Describe flashover and the dangers of superheated gasses
- Describe isolation of services (gas/electricity), door opening entry techniques and risks posed by guns and ammo

## RV Exterior Fire

### Scenario Description

The firefighter is presented with an engine fire in a campervan/RV. The entire exterior front-end of the campervan/RV is on fire.



### Learning Outcomes

- Demonstrate hose handling techniques
- Demonstrate dynamic risk assessment
- Successfully demonstrate correct water application technique and positioning
- Demonstrate word-back and situation reporting
- Describe appropriate extinguishing medium
- Describe additional resourcing requirements
- Describe expected time duration and reporting to command
- What to look for a 360° size-up
- Risks posed by batteries, fuel cells, gas tanks, gas shocks and magnesium construction
- Prioritisation of attack

## Galley Fire

### Scenario Description

A firefighter approaches a fat fire in the tight confines of a naval ship galley.



### Learning Outcomes

- Hose handling techniques
- Discussion on extinguishing medium
- Word-back and situation report training
- Correct water application technique
- Resourcing requirements
- Expected time duration and reporting to command
- Dynamic risk assessment
- What to look for in a 360° size-up
- Dangers of electrical attack if not isolated
- Approach and extinguishing technique
- Prioritisation of attack
- Ventilation Learning Outcomes

## Passageway Electrical Fire

### Scenario Description

An electrical fire in a distribution panel in the tight confines of a naval ship corridor. The scenario will be failed unless the power is isolated by opening an isolation panel before attacking the fire. This is a demonstration of procedural training.



### Learning Outcomes

- Hose handling techniques
- Discussion on extinguishing medium
- Word-back and situation report training
- Correct water application technique
- Resourcing requirements
- Expected time duration and reporting to command
- Dynamic risk assessment
- What to look for in a 360° size-up
- Dangers of electrical attack if not isolated
- Approach and extinguishing technique
- Prioritisation of attack
- Ventilation

**Sleeping Compartment Fire****Scenario Description**

A fire in the tight confines of a naval ship sleeping compartment. A fire starts in a bunk bed.

**Learning Outcomes**

- Hose handling techniques
- Discussion on extinguishing medium
- Word-back and situation report training
- Correct water application technique
- Resourcing requirements
- Expected time duration and reporting to command
- Dynamic risk assessment
- What to look for in a 360° size-up
- Dangers of electrical attack if not isolated
- Approach and extinguishing technique
- Prioritisation of attack
- Ventilation

## Bulk Storage - Propane/LPG BLEVE

### Scenario Description

The firefighter is presented with an LPG/Propane BLEVE tank on fire at the right-hand side of the fuel/gas station. LPG/Propane gas bullet is impinged and there is pressure fed fuel on fire. The correct procedure to prevent both BLEVE and dangerous gas leakage is to extinguish all fires other than the gas plume fire, and to then sweep water across the gas bullet to cool it, focusing more on the bottom half as the bullet empties.



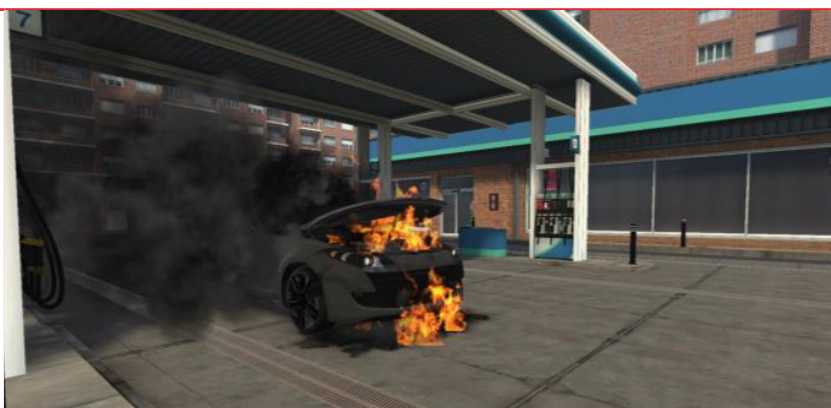
### Learning Outcomes

- Demonstrate hose handling techniques
- Demonstrate dynamic risk assessment
- Demonstrate correct medium application technique and positioning
- Demonstrate word-back and situation reporting and describe safe approach
- Describe appropriate extinguishing medium and additional resourcing requirements.
- Describe expected time duration and reporting to command
- What to look for a 360° size-up
- Risks posed by batteries, fuel cells, gas tanks, gas shocks and magnesium components

## Car Fire

### Scenario Description

The trainee is presented with a fire near the fuel/gas pump.



### Learning Outcomes

- Hose handling techniques
- Dynamic risk assessment
- Correct medium application technique & positioning
- Word-back and situation reporting
- Describe appropriate extinguishing medium and additional resourcing requirements
- Describe expected time duration and reporting to command
- What to look for a 360° size-up
- Risks posed by batteries, fuel cells, gas tanks, gas shocks and magnesium components
- Prioritisation of attack

## Car Running Fuel Fire

### Scenario Description

The firefighter is presented with a fire near the fuel/gas pump. A car is on fire, and running fuel is also alight.



### Learning Outcomes

- Demonstrate hose handling techniques
- Discuss appropriate extinguishing medium
- Demonstrate word-back and situation reporting
- Demonstrate correct water application technique
- Describe additional resourcing requirements
- Expected time duration and reporting to command
- Demonstrate dynamic risk assessment
- Demonstrate and describe what to look for in a 360° size-up
- Demonstrate and describe difference in electric vehicle/gas/petrol car fire attack
- Demonstrate appropriate approach and extinguishing technique
- Describe risks posed by batteries, fuel cells, gas tanks, gas shocks and magnesium construction
- Describe prioritisation of attack

## Parapet Wall Collapse

### Scenario Description

A fire within a petrol station/ gas station store has spread to the roof space and will eventually trigger a parapet collapse. There are also multiple exposures.



### Learning Outcomes

- Demonstrate command and control of a large and complex environment
- Demonstrate approach and 360° size-up
- Demonstrate correct hose handling and suppressant choice
- Provide dynamic risk assessment
- Dangers of parapet constructions
- Demonstrate correct radio calls
- Describe multi agency considerations
- Describe risk of further structural failure
- Describe possible further resources
- Assessment of exposures

## Refinery: Burst Pipe Running Fuel Fire

### Scenario Description

The firefighter is presented with a pipe that is on fire in a refinery. The pipe has ruptured and is a pressure fed fuel fire. There is running fuel on the ground that is on fire.



### Learning Outcomes

- Demonstrate correct hose handling techniques and provide dynamic risk assessment
- Demonstrate correct water application technique and positioning
- Demonstrate word-back and situation reporting
- Describe appropriate extinguishing medium and additional resourcing requirements
- Describe expected time duration and reporting to command
- What to look for in a 360° size-up
- Describe prioritisation of attack (particularly exposures which may present a far greater risk than the existing fire)

## Grass Fire

### Scenario Description

A wildfire approaching a machinery shed and house in a rural property (Australian Setting). Fire has random propagation - sometimes it progresses quickly and sometimes it self-extinguishes.



### Learning Outcomes

- Hose handling techniques
- Discussion on extinguishing medium
- Word-back and situation report training
- Correct water application technique
- Resourcing requirements
- Expected time duration and reporting to command
- Dynamic risk assessment
- Priority of asset protection
- Approach and extinguishing technique
- Prioritisation of attack
- Safe anchor points and protection from radiant heat

## Backhoe Fire

### Scenario Description

The firefighter is presented with a backhoe on fire on a farm. The fire can be seen by the firefighter on approach. The backhoe's engine is on fire and it is spreading.



### Learning Outcomes

- Hose handling techniques
- Discussion on extinguishing medium
- Word-back and situation report training
- Correct water application technique
- Resourcing requirements
- Expected time duration and reporting to command
- Dynamic risk assessment
- Priority of asset protection
- Approach and extinguishing technique
- Prioritisation of attack
- Safe anchor points and protection from radiant heat

## Hay Shed Fire

### Scenario Description

The firefighter is presented with a hay pile on fire in a farm setting. Fire and smoke can be seen by the firefighter on approach. There is an LPG/propane tank behind the shed. BLEVE is possible and it is possible for the shed/barn to collapse. The fire fighter only needs to extinguish the fire, threatening the gas bullet, as opposed to cooling the bullet.



### Learning Outcomes

- Demonstrate correct hose handling techniques and provide dynamic risk assessment
- Demonstrate correct water application technique and correct positioning
- Demonstrate word-back and situation reporting
- Describe equipment and PPE necessary and appropriate extinguishing medium
- Describe isolation of services (gas)
- Describe additional resourcing requirements
- 360° size-up
- Describe word-back and situation reporting

## Backhoe Fire

### Scenario Description

The firefighter is presented with a backhoe on fire on a farm. The fire can be seen by the firefighter on approach. The backhoe's engine is on fire and it is spreading.



### Learning Outcomes

- Demonstrate hose handling techniques and provide dynamic risk assessment
- Demonstrate correct water/foam application technique and positioning
- Demonstrate word-back and situation reporting
- Describe equipment and PPE necessary
- Describe appropriate extinguishing medium and additional resourcing requirements
- 360° size-up
- Describe word-back and situation reporting

## Barn Fire

### Scenario Description

The firefighter is presented with a hay pile on fire in a barn on a farm. Fire and smoke can be seen by the firefighter on approach. There is an LPG/propane tank behind the barn. BLEVE is possible and it is possible for the barn wall to collapse. The fire fighter only needs to extinguish the fire threatening the gas bullet in this scenario, as opposed to cooling the bullet.



### Learning Outcomes

- Demonstrate correct hose handling techniques and provide dynamic risk assessment
- Demonstrate correct water application technique and correct positioning
- Demonstrate word-back and situation reporting
- Describe equipment and PPE necessary and appropriate extinguishing medium
- Describe isolation of services (gas)
- Describe additional resourcing requirements
- 360° size-up
- Describe word-back and situation reporting

### Wildfire

#### Scenario Description

A wildfire approaching a farm and house in a rural property (USA setting). Fire has random propagation and sometimes progresses quickly and will threaten the house if not contained.



#### Learning Outcomes

- Hose handling techniques
- Discussion on extinguishing medium
- Word-back and situation report training
- Correct water application technique
- Resourcing requirements
- Expected time duration and reporting to command
- Dynamic risk assessment
- Priority of asset protection
- Approach and extinguishing technique
- Prioritisation of attack
- Safe anchor points and protection from radiant heat

### New York - Electric Vehicle Fire

#### Scenario Description

An electric vehicle has been involved in a collision in a New York street. The fire fighter must knock down the fire as normal, do a size-up to ascertain that they are dealing with an electric vehicle, and then cool the battery correctly to avoid flare ups. White smoke will emit from random hot spots on the battery. When sufficient hot spots have been cooled the scenario will be deemed completed.



#### Learning Outcomes

- Hose handling techniques
- Dynamic risk assessment
- Correct medium application technique & positioning
- Word-back and situation reporting
- Describe appropriate extinguishing medium and additional resourcing requirements
- Describe expected time duration and reporting to command
- What to look for in a 360° size-up
- Risks posed by batteries, fuel cells, gas tanks, gas shocks and magnesium components
- Prioritisation of attack
- Understanding the risks of Lithium batteries
- Render safe of electric vehicles
- Exposure concerns of venting gasses from electric vehicles
- Vehicle stabilisation and priority of attack

## Tilt Construction Wall Collapse

### Scenario Description

A fully involved paint warehouse fire. Warped wall supports are visible during size-up. The tilt construction wall will eventually collapse outwards, making correct approach and positioning critical.



### Learning Outcomes

- Demonstrate command and control of a large and complex environment
- Demonstrate approach and 360° size-up
- Demonstrate correct hose handling and suppressant choice
- Provide dynamic risk assessment
- Dangers of tilt construction wall buildings
- Demonstrate correct radio calls
- Describe multi agency considerations
- Describe risk of further structural failure
- Describe possible further resources
- Describe tilt-slab construction technique appliance sighting



### **FLAIM's Intellectual Property**

FLAIM Systems intellectual property protection extends to patents, trademarks, copyright VR content and proprietary software. Proprietary software includes hardware abstraction layer system software, breathing apparatus data capture, virtual fire, smoke and water behaviour and heat suit proximity tracking.

The FLAIM Trainer System is patent protected under the World Intellectual Property Organisation (WIPO) WO2016/131110 A1

FLAIM Trainer™ is a registered trademark of FLAIM Systems Pty Ltd

ABN 71 620 462 946

Copyright ©FLAIM Systems Pty Ltd 2019

