A large, intense fire with bright orange and yellow flames against a blue sky. In the foreground, a white fire helmet is visible on the right side. The text is overlaid on this image.

# **Self Contained Breathing Apparatus**

**Part 2**

A large fire with a fire hydrant in the foreground. The fire is intense, with bright orange and yellow flames rising into a blue sky. A fire hydrant is visible in the lower right foreground, partially obscured by the fire's glow. The background shows some trees and a utility pole.

# Objectives

- Identify the inspection procedures to be used when wearing and working with SCBA
- Identify safety procedures to be used when wearing and working with SCBA
- Identify the emergency procedures to be used in the event of SCBA failure
- Identify the methods of donning and doffing an SCBA while wearing PPE
- Identify the techniques for exiting through a restricted opening



# SCBA Inspection Procedures

- NFPA 1404 – Standard for Fire Service Respiratory Protection Training
- NFPA 1500 – Standard on Fire Department Occupational Safety and Health Program

Requires all SCBA to be inspected daily, monthly and annually



# SCBA Inspection Procedures

- Daily inspection procedures
  - Backpack and harness straps in good condition and fully extended
  - Check for full cylinder (minimum 90%)
  - Check all gauges (should be within 100 PSI)
  - Activate PASS device
  - Check face piece
  - Connect regulator to face piece, take 1-2 breaths
  - Close cylinder valve and open by-pass to bleed air
  - Check that low pressure alarm activates at proper pressure
  - Close by-pass valve



# SCBA Inspection Procedures

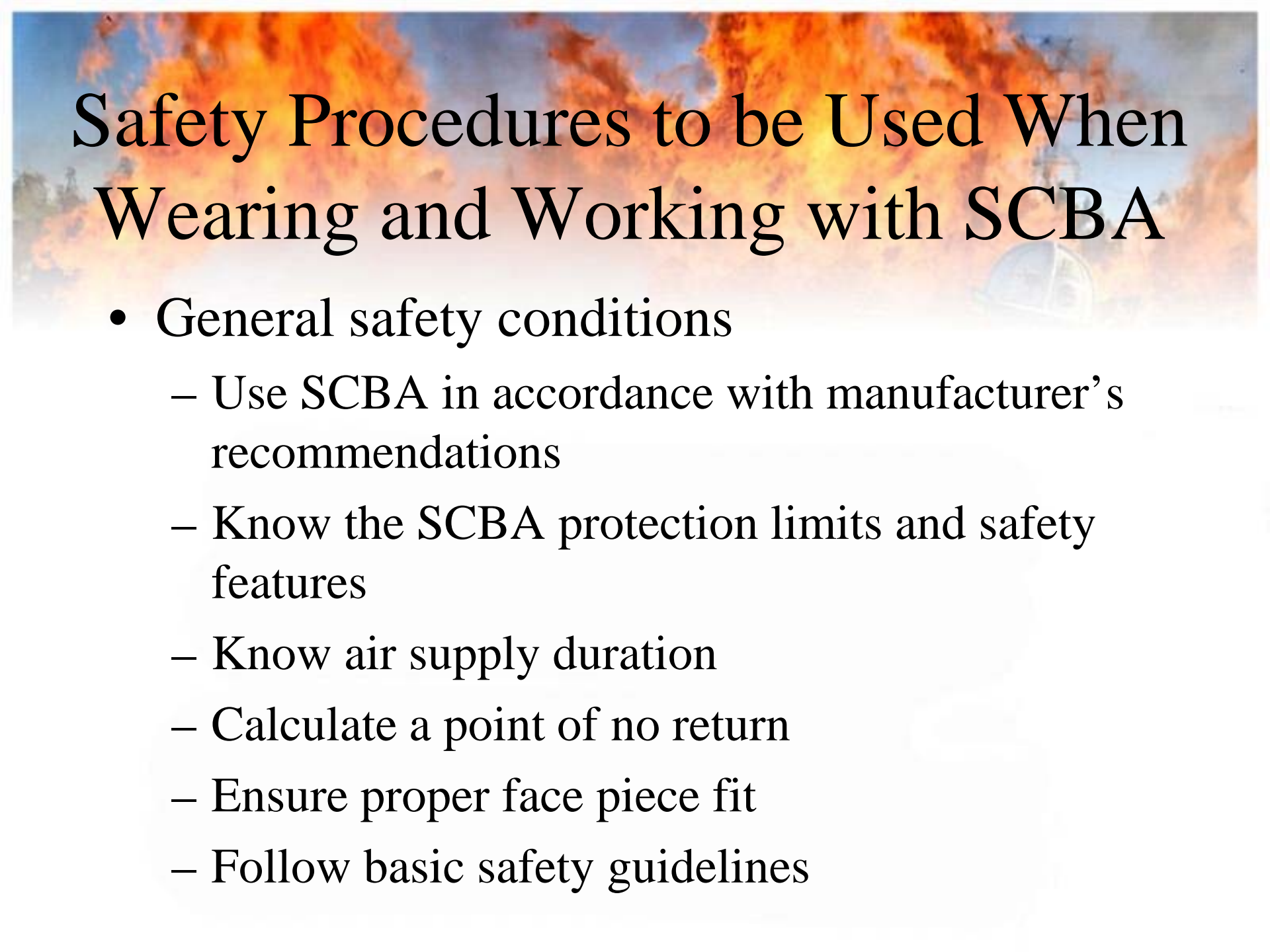
- Monthly inspection procedures, in addition to daily inspections
  - Inspect mounting bracket for damage or wear  
check hydrostatic test date on cylinder
  - Inspect straps for wear, burns and cuts
  - Check all buckles and fasteners
  - Examine back plate for cracks or rust
  - Check all connection points
  - Check all hoses
  - Open cylinder and compare gauge readings
  - Complete all necessary paper work



A large, intense fire with bright orange and yellow flames against a blue sky. In the foreground, a white fire helmet is visible, slightly out of focus. The fire appears to be consuming a structure or vehicle.

# SCBA Inspection Procedures

- Annual inspection should be performed by a certified manufacturer's representative

The background of the slide features a large, intense fire with bright orange and yellow flames against a dark blue sky. In the lower right foreground, a white fire helmet is visible, slightly out of focus, resting on a surface.

# Safety Procedures to be Used When Wearing and Working with SCBA

- General safety conditions
  - Use SCBA in accordance with manufacturer's recommendations
  - Know the SCBA protection limits and safety features
  - Know air supply duration
  - Calculate a point of no return
  - Ensure proper face piece fit
  - Follow basic safety guidelines



# Safety Procedures to be Used When Wearing and Working with SCBA

- General safety conditions
  - Know your own physical limitations
    - Before entering hazardous atmosphere, don and check unit for operation
    - Always work in pairs
    - Stay in contact with a wall, hose line, lifeline or partner
    - Work to control breathing
    - Protect the SCBA from damage
    - Inspect and maintain SCBA in accordance with department policy





# Safety Procedures to be Used When Wearing and Working with SCBA

- Monitoring firefighter entering hazardous situations
  - Entry control
  - PASS device for each individual entering the area
  - Accountability system
    - Entry time
    - Personnel
    - Location maintained
  - Guideline / tag line system
    - Series of lines to which others entering are attached
    - Individual remains outside to monitor the line



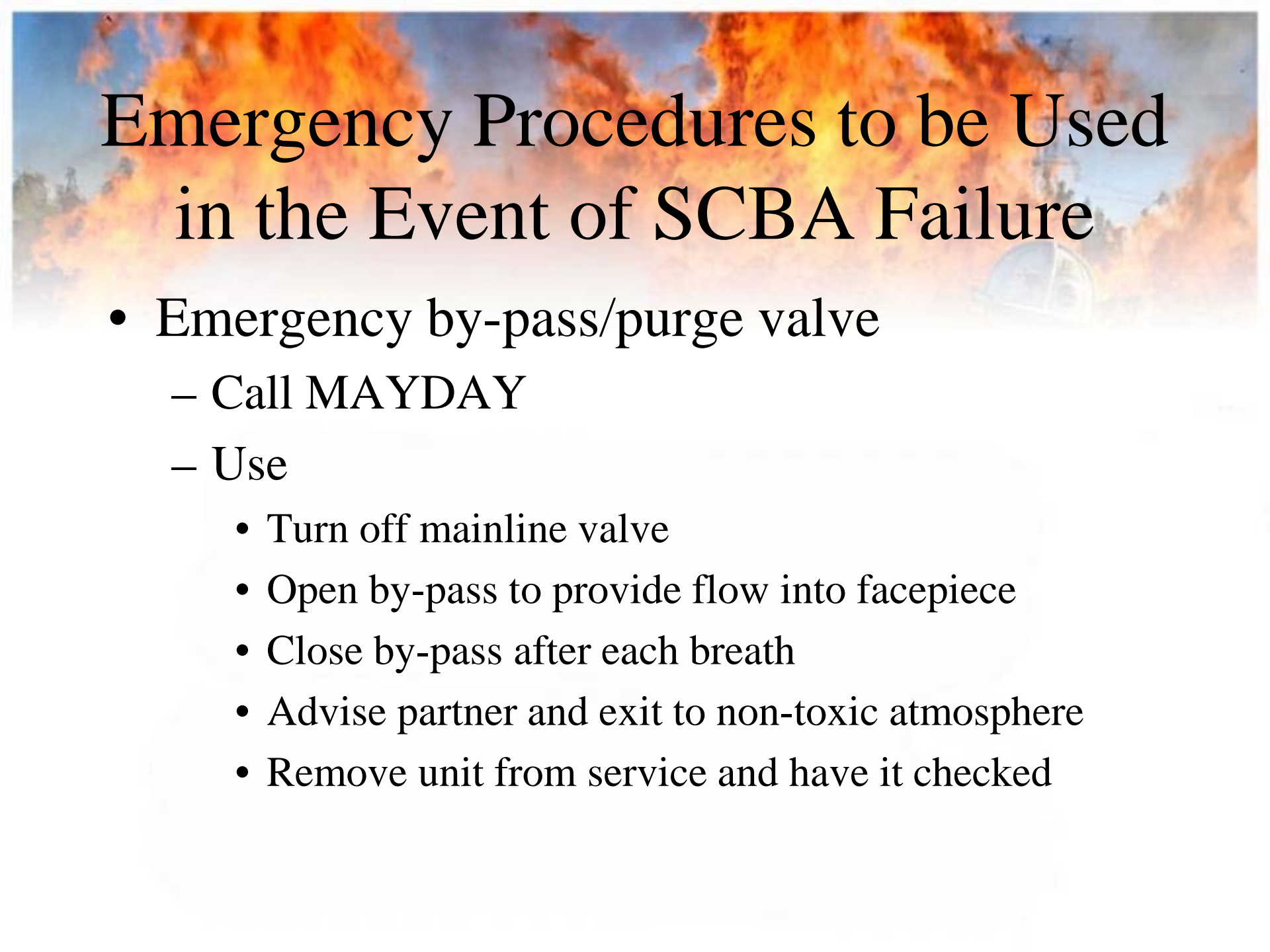
# Safety Procedures to be Used When Wearing and Working with SCBA

- Maintenance and storage
  - Clean and sanitize
  - Follow department SOPs
  - Use cleaners recommended by the manufacturer
  - Inspect and test for defects
    - Inspect before placing in service
    - Have air quality tested quarterly
    - Ensure all inspection are performed by qualified personnel
    - Keep accurate records
    - Remove defective units from service



# Safety Procedures to be Used When Wearing and Working with SCBA

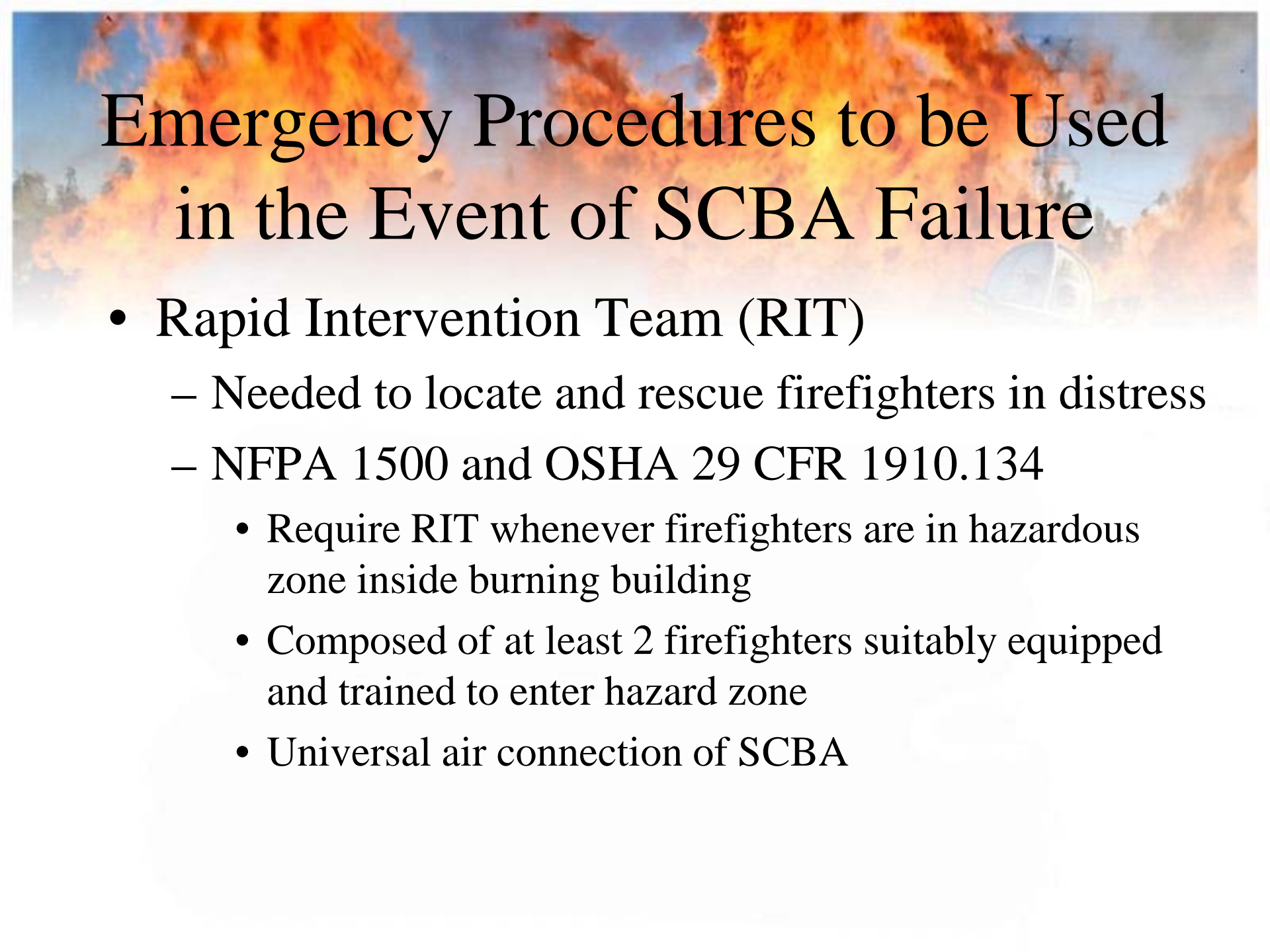
- Maintenance and storage
  - Repair and conditioning
    - Follow manufacturer's procedures and recommendations
    - Allow only personnel certified by the manufacturer to repair units
    - Use exact replacement parts
  - Storage
    - Follow department procedures
    - Follow manufacturer's instructions for storage



# Emergency Procedures to be Used in the Event of SCBA Failure

- Emergency by-pass/purge valve
  - Call MAYDAY
  - Use
    - Turn off mainline valve
    - Open by-pass to provide flow into facepiece
    - Close by-pass after each breath
    - Advise partner and exit to non-toxic atmosphere
    - Remove unit from service and have it checked

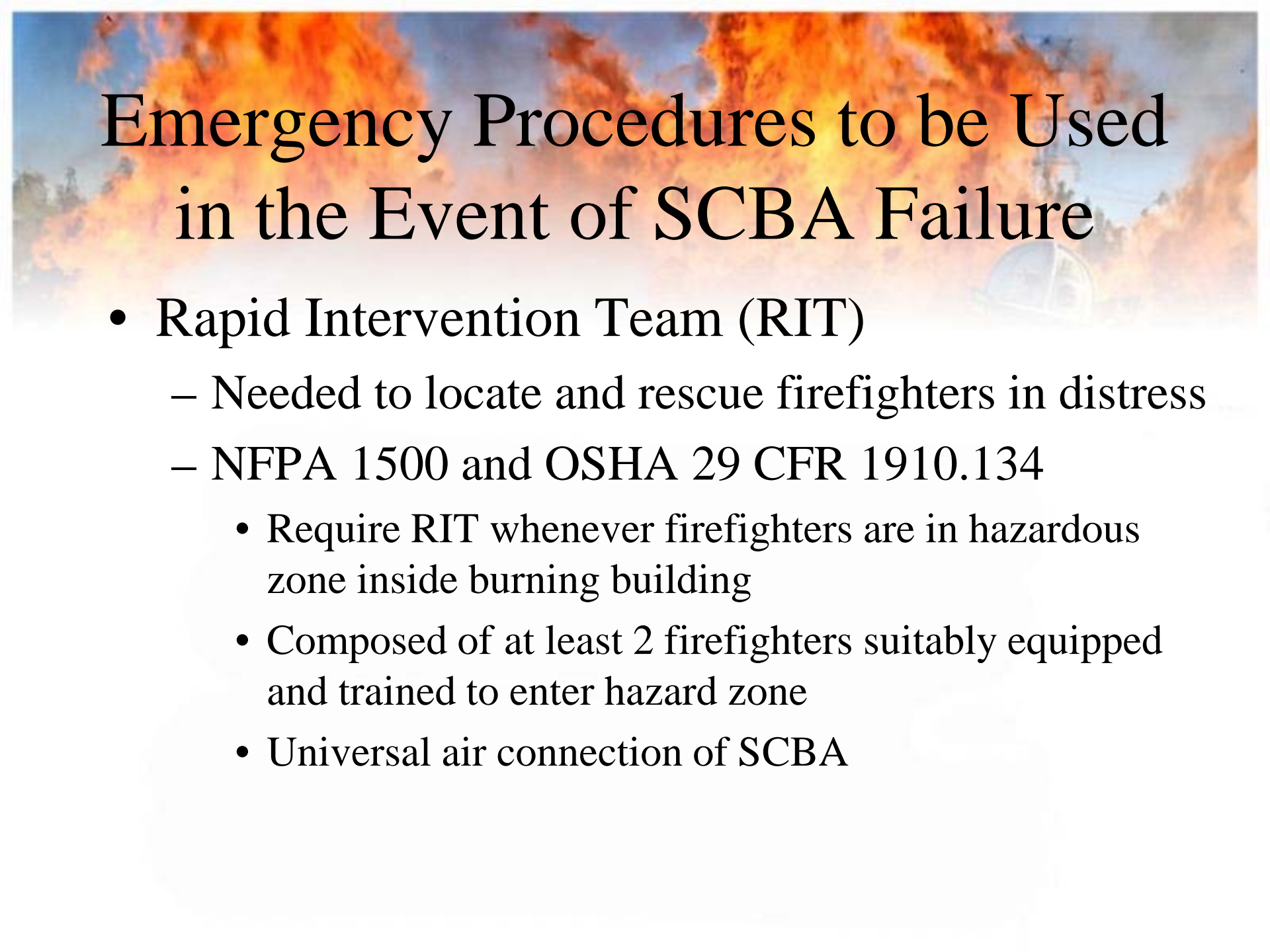




# Emergency Procedures to be Used in the Event of SCBA Failure

- Conservation of air
  - Always practice controlled breathing
  - When supply is low, practice skip breathing
    - Emergency breathing technique to extend remaining air supply
    - Inhale, hold your breath as long as it would take to exhale, then inhale once again before exhaling
    - Take normal breath to keep carbon dioxide in lungs at proper balance
    - Notify partner, leave area





# Emergency Procedures to be Used in the Event of SCBA Failure

- Rapid Intervention Team (RIT)
  - Needed to locate and rescue firefighters in distress
  - NFPA 1500 and OSHA 29 CFR 1910.134
    - Require RIT whenever firefighters are in hazardous zone inside burning building
    - Composed of at least 2 firefighters suitably equipped and trained to enter hazard zone
    - Universal air connection of SCBA

# Methods of Donning SCBA

- Over the head
  - Open cylinder valve
  - Hold back plate with both hands
  - Lift SCBA over your head
  - Slide SCBA down your back
  - Tighten waist and shoulder straps
  - Don face piece and check for seal
  - Position protective hood / don helmet
  - Connect regulator to the facepiece



# Methods of Donning SCBA

- Coat Method

- Open cylinder valve
- Place dominant hand on opposite shoulder strap
- Lift SCBA and swing it over your dominant shoulder
- Slide other hand through corresponding shoulder strap
- Tighten waist and shoulder straps
- Don face piece and check for seal
- Position protective hood / don helmet
- Connect regulator to the facepiece





# Methods of Donning SCBA

- **Seat Mounted SCBA**

- Sit in seat and place arms through shoulder straps
- When apparatus stops, release SCBA from mounting bracket
- Tighten waist and shoulder straps
- Open main cylinder valve
- Don face piece and check for seal
- Position protective hood / don helmet
- Connect regulator to the facepiece



# Methods of Donning SCBA

- Facepiece

- Grasp the harness with the thumbs through the straps from the inside, and spread the straps
- Rest your chin in the chin pocket at the bottom of the mask
- Fit the face piece to your face, bringing the straps or webbing over your head
- Pull the lower harness straps evenly and simultaneously to the rear to tighten them
- Pull the temple harness straps evenly and simultaneously to the rear to tighten them





# Methods of Donning SCBA

- Facepiece (cont.)

- Check for proper seal.
  - Check the face piece seal by sealing the end of the low-pressure hose with your bare hand, and inhaling slowly. (Note: Inhaling very quickly will temporarily seal any leak and will give a false sense of a proper seal)
  - Check the exhalation valve by exhaling while sealing the end of the low-pressure hose with the palm of your hand
- Pull the protective hood up so that it covers all bare skin
- Don your helmet and tighten the chin strap
- Install the regulator on your face piece or attach the low-pressure air supply hose to the regulator





# Method of Doffing SCBA

- Remove the regulator from the face piece or disconnect the low-pressure air supply hose from the regulator
- Shut off the air supply valve
- Remove your helmet and pull your protective hood down around your neck
- Loosen the straps on your face piece
- Remove your face piece
- Release your waist strap
- Loosen the shoulder straps and remove the SCBA
- Shut off the air-cylinder valve
- Bleed the air pressure from the regulator by opening the purge valve. If you have an integrated PASS device, turn it off
- Place the SCBA in a safe location

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# Techniques for Exiting Through a Restricted Opening

- Shifting
  - Remove or loosen only those parts of the SCBA unit necessary to negotiate the restricted opening
  - Never remove the facepiece to reduce your profile
  - Loosen straps and rotate the SCBA under the arm along the rib cage

The background of the slide features a large, intense fire with bright orange and yellow flames. In the lower right foreground, a white fire helmet is visible, slightly out of focus. The overall scene is dramatic and emphasizes the hazardous environment of a fire.

# Techniques for Exiting Through a Restricted Opening

- **Dumping**
  - As a last resort, remove the harness assembly and hold SCBA unit in front of you
  - Always maintain contact with SCBA
  - Hold onto shoulder straps and regulator assembly
  - Do not move unit away or allow facepiece to be pulled away
  - Once through passage, re-don the SCBA





Q & A