REGIONAL STANDARD OPERATING PROCEDURES

Rule of Air Management

#: 103.21   REV: 04 /2015

SCOPE:

This SOP shall serve to direct fire department personnel in the safe use of self-contained breathing apparatus (SCBA) while operating at hazardous or potentially hazardous incidents.

PURPOSE:

To increase safety when operating in hazardous or potentially hazardous atmospheres by establishing an air management policy in accordance with NFPA 1404, *Standard for Fire Service Respiratory Protection Training*.

SAFETY:

It is the goal of the fire service in general to reduce and/or eliminate Line of Duty Deaths (LODDs) and firefighter injuries. Understanding and enforcing this SOP supports our commitment to help meet this goal.

DEFINITIONS:

Air Management – The ongoing assessment of air consumption by individual firefighters and/or teams that are breathing air from SCBA. Firefighters in a hazardous atmosphere must continually check their pressure gauges to know how much air they have left in their cylinder.

The Rule of Air Management (ROAM) – Each individual firefighter must know how much air he/she has upon entry and will manage that air so he/she can exit any hazardous atmosphere *before* the SCBA low-air warning activates.

Immediately Dangerous to Life or Health (IDLH) – Any atmosphere that poses an immediate hazard to life or produces immediate, irreversible, debilitating effects on health.

Hazardous Atmosphere – Any atmosphere that is oxygen deficient or that contains a toxic and/or disease producing contaminant. These atmospheres may be immediately dangerous to life or health (IDLH), or not.

PROCEDURE:

SCBA shall be used by all personnel operating in any area where the potential for a hazardous atmosphere exists, including but not limited to:
- Interior structural firefighting operations
- Exterior structural firefighting operations where the potential for breathing smoke exists
- Overhaul operations (even in the absence of visible smoke)
- Car fires
- Dumpster and rubbish fires
- Hazardous materials incidents in the Hot and Warm zones
- Confined space entry
- Carbon Monoxide (CO) emergencies where the CO concentration exceeds 10 ppm
- Any time the Incident Commander or Safety Officer deems necessary

Individual Air Management Program

All personnel shall follow the Rule of Air Management (ROAM) which states: *"Know how much air you have in your SCBA cylinder and manage that air so you can leave the hazardous environment before your low-air alarm activates."*

The low-air alarm activates when the SCBA cylinder has 25% of its capacity remaining. This 25% is the emergency reserve and should not be used for exiting the hazard area.

Using the ROAM

1. Conduct a **READY** check before entering:
   - **R**adio – turned on, battery charged, correct channel
   - **E**quipment – PPE, proper tools for the assignment
   - **A**ir – full cylinder, SCBA functioning properly
   - **D**uties – everyone knows their assignment
   - **Y**es – if answer to above is yes, you may enter
2. Air checks shall be conducted at natural breaks:
   - Before changing levels
   - Before entering a room
   - After moving down a hallway
   - After searching a room
   - Before and after completing a physically demanding task
   - Before beginning a new assignment
3. Report air pressure
   - Personnel should inform their supervisor of their air status at during air checks.
   - Progress reports shall be given over the radio to the proper ICS functionary (Command, Division, Group, etc.). This allows the ICS functionary to pre-plan for replacing that team in the hazardous atmosphere.
   - When giving progress reports, supervisors should relay the following information:
     - Identifier - company, group or division.
     - Conditions - heat, smoke, structural integrity
     - Actions - what actions are being performed (are they working?)
     - Needs - are additional resources needed?
     - Air - percentage remaining of lowest member
     - PAR - Personnel Accountability Report
4. Equalizing work load within the hazard area
   - Supervisors should attempt to equalize work load amongst personnel operating within the hazard area to maximize available SCBA air.
5. Exit the hazard area *before* your low-air alarm activates. The time to exit will be influenced by several factors:
   - Rate of breathing
   - Physical conditioning
   - Stress level
   - Location inside structure
   - Visibility
   - Fire conditions
   - Debris, furniture, etc.
   - Layout of the structure
6. Elapsed time notifications:
   - At every 10-minute elapsed time notification Command shall request a progress report. Elapsed time notifications will be suspended after the incident is placed 'under control', unless otherwise requested by Command.

7. Emergency breathing techniques
   - In the event of a Mayday situation or low-air emergency, utilize the GRAB LIVES procedures and attempt to use the Reilly Emergency Breathing Technique ("hum method") as described below:
     1. Inhale normally
     2. While exhaling, hum in a slow, consistent manner

Supervisors should take the lead in air management for their respective team. Supervisors must make the decision to exit the hazardous atmosphere before their team's low-air warning activates.

Ultimately, air management is each firefighter's responsibility and is dependent on situational awareness. Firefighters must make sure they have a full cylinder before they enter the hazardous atmosphere. Once inside the hazardous atmosphere, firefighters must look at their pressure gauges at regular intervals and inform their supervisor of their air status.

It is unacceptable for firefighters to work in hazardous atmospheres up to the time their SCBA low-air warning activates. Firefighters must exit the fire building or hazardous atmosphere before their low-air warning activates. This ensures the SCBA reserve air supply is available should they need it for emergency egress.

A low-air warning or PASS alarm activation at an emergency scene should be an indication that a firefighter is in trouble.

All members shall maintain a heightened awareness of low-air and PASS alarm activations. If a member hears a low-air warning or PASS alarm in the hazardous atmosphere and there is not an immediate radio report from the team whose warning is activated, that warning should be considered an emergency. Anyone hearing either alarm should notify Command immediately of the situation.