FIREGROUND TACTICAL AND OPERATIONAL

1.0 PURPOSE

The following guideline shall be used to regulate the fire suppression activities of the Ponderosa Fire Department. The on-going application of these principles will produce standard and more predictable rescue and fire control results. These procedures are meant to only offer a basic conceptual framework for fire ground operations and command operations.

2.0 DEPARTMENTAL GOAL

It is the goal of The Ponderosa Fire Department to prevent fires and to save lives and property.

3.0 SAFETY

Fire department personnel conducting fireground operations will wear full protective clothing and SCBA. All teams will work in groups of two or more and the buddy system will be utilized.

4.0 DEPARTMENT STRATEGIC OBJECTIVES

4.1 Life Safety/Rescue

A. Primary Search: It shall be standard operating procedures to extend a primary search in all involved and exposed occupancies that can be entered. The completion of the Primary Search process is reported utilizing the standard radio reporting term, "All clear." to the Incident Commander.

B. Rescue efforts should be extended in the following order:

#1 Most severely threatened
#2 The largest number (groups)
#3 The remainder of the fire area
#4 The exposed areas

C. Secondary Search: The fire department will conduct a secondary search when the fire is under control or extinguished and assist in the recovery of all fire victims. The secondary search should be completed by different teams than those involved in the primary search activities. Thoroughness (rather than time) is the critical factor in secondary search. In the event a recovery, the appropriate authorities will be notified and at no time shall the names of an injured or deceased be placed on the radio.

D. Medical / Rehab: Division / Group: On large working fires, multiple alarms, etc., Rehab will set up an aid station in an accessible, non-congested area. The Incident Commander shall give whatever support is necessary to assist Rehab at the aid station. Rehab will be released from the scene upon order of the Incident Commander.

4.2 Fire Control

A. It is standard operating procedure to attempt to stabilize fire conditions by extending wherever possible an aggressive, well-placed and adequate interior (offensive) fire attack and to support that aggressive attack with whatever action is required to reduce fire extension to bring the fire under control.

B. The following operations are to be initiated:

1. Size-up
2. Accountability
3. Rescue/life safety
4. Exposure protection
5. Confinement
6. Ventilation
7. Extinguishment
8. Property conservation
9. Defensive Mode: property that is lost, so protect exposed property based upon the most dangerous direction of fire spread. Always attack from the unburned side! Do not continue operations in positions that are essentially lost.

C. Initial attack efforts must be directed toward supporting primary search/rescue operations. Fire location and extent must be determined prior to starting fire operations. The first attack team must go between the victims and the fire and protect avenues of escape.

4.3 Standard Guidelines

The first arriving officer shall give a building description (occupancy; size: large, medium, small; construction and levels), obvious fire conditions, actions to be taken mode of command (i.e. Investigative, Fire Attack, Command)

Example #1: *Engine-61 on location of a two-story brick, single family dwelling, nothing visible, will be out investigating.*

Example #2: *Engine-62 on location of a three-story brick, residence, smoke showing from the first floor, side one. Engine-62 will be laying 5-inch line and conducting primary search.*

A. The first arriving officer shall assume or pass command.
B. Additional arriving companies will state what they are doing.

Example #1: *Engine-63 laying 5-inch to Engine-62.*

Example #2: *Engine-64 laying 5-inch extending 2" line to side C.*

C. Signal 7-1 will be used only on box and greater assignments. When using Signal 7-1, the officer will specify which companies, if any, are being held at the scene.
D. When units return to service, their status will be reported to the dispatcher;

4.4 Fire Stream Management

A. It is the responsibility of each engine company to provide its own uninterrupted, adequate water supply. "Provide" does not mean that they must lay the line or that they must pump it. It is their responsibility to get water into their pump by whatever means available.
B. When in doubt, lay hose. It will be the company officer's decision as to whether or not hose should be laid. Remember, it is better to pick up a dry line that was not used than to need a line and not lay it.
C. Offensive Attack without a secure water supply – This is a judgment call of the first arriving officer. Decision factors to make an offensive attack without a secure water or to establish a secure water supply vary. Factors which may determine this decision are:

1. Small fire able to be controlled by tank water,
2. Time factor to affect rescue of occupants,
3. Lack of manpower assigned to apparatus, or
4. Fire hydrant location and availability.

D. Factors relating to type of line pulled:

1. Size
2. Placement
3. Speed
4. Mobility
5. Supply

E. Booster lines will not be pulled as the first line on working structure or automobile fires. A 1.75" will be the least size pulled.

F. Hoseline Placement:

1. First attack line should be placed between fire and victims.
2. If there is no life hazard, the first attack line should be placed between the fire and most severe exposure.
3. Second attack line backs up the first and protects the secondary means of egress.
4. Assist rescue.
5. Protect exposures.
6. Support confinement.

G. Master Streams – Operate master streams, if necessary, but not when an interior attack is taking place. Do Not combine interior and exterior attacks. Before master streams are operated, the Incident Commander shall notify the Dispatcher of the mode of operation (Defensive Operations) the dispatcher should "Alert" the message over the radio to advise all personnel. Do Not operate into ventilation holes! Do Not apply water to the roof and think you are extinguishing the fire.

H. Water Supply – At any fire that requires the use of large quantities of water, the utility district may be notified in order to ensure an adequate supply from the water distribution system.

I. Fire Flow – To determine basic fire flow, requirements must be kept simple. The Incident Commander must constantly evaluate the effectiveness of the attack and adjust accordingly.

The Basic Field Fire Flow Calculations:

The needed fire flow is computed by determining the area of the building (length x width) and dividing by 3.

$$\frac{\text{Length x Width}}{3} \times \text{Number of Floors} = \text{G.P.M.}$$

Example: The approximate dimensions are 50' by 30'.

	Fully involved:	500GPM
$\frac{50' \times 30'}{3} \times 1 =$	50% involved:	250GPM
	25% involved:	125GPM

Exposures should be considered. As a rule of thumb, add ¼ of the basic fire flow for each exposed building. In multi-story buildings, floor below the fire should not be included in the initial calculation.

J. Effects on Strategic and Tactical Objectives

Calculations of the needed fire flow compared to the capability of the resources should determine the strategic objectives of the overall operation. If the fire flow capability of the resources exceeds the required fire flow, the Incident Commander can attempt an offensive attack on the fire. If the fire flow requirements exceed the fire flow capability, then a defensive mode should be considered.

Other items to taken into account:

1. Rescue/exposure flow requirements
2. Duration of fire flow required
3. Personnel required to apply required flow
4. Sufficient supply
5. Alternatives available

4.5 Property Conservation

A. After completing rescue and fire control operations, it shall be standard procedure to commit whatever fire ground resources required to reduce property loss to an absolute minimum. All members are expected to perform in a manner that continually reduces loss during fire operations.

B. Post Control and Extinguishment – No one shall enter a hazardous area without self-contained breathing apparatus until the carbon monoxide level is 35ppm or less as indicated by the CO meter.

4.6 Special Signals or Calls

A. Mode of Operation Change – alert tone and orders repeated by the dispatcher.

B. Special Messages – Alert tone on radio and any special messages Incident Commander wants repeated (location of command post).

C. On Scene Description (first unit on location size up) – Alert tone on radio and Dispatcher repeats size-up.

D. Emergency Evacuation of Structure (structure failure, fire out of control) - For the purpose of this procedure the EMERGENCY evacuation of a structure shall mean an evacuation that is initiated by the Incident Commander because conditions are believed to pose an immediate and direct threat to the safety of personnel. An EMERGENCY evacuation is to be ordered only when personnel are in imminent danger.

E. An EMERGENCY evacuation should not be confused with an orderly withdrawal from positions from an offensive to a defensive mode of operation, or other non-critical adjustment of forces.

F. RETREAT AND EVACUATION PROCEDURES

When a condition that seriously affects the safety of operating personnel is detected, the Division or Incident Commander shall be notified immediately along with a recommended course of action. At the same time, steps shall be taken to remove threatened personnel from the danger area.

If conditions are such that total EMERGENCY evacuation of the building is necessary, the Incident Commander or the Safety Officer shall initiate the retreat signal. The retreat signal shall be as follows:

G. The initiating officer shall broadcast "EMERGENCY TRAFFIC" over the fire ground radio frequency(s). On hearing the "EMERGENCY TRAFFIC" broadcast, all others on the frequency shall maintain radio silence. As an example, the officer shall then broadcast the message, "EMERGENCY TRAFFIC – ALL PERSONNEL EVACUATE THE BUILDING." This message shall be repeated a minimum of three (3) times. Incident Commander will also advise Dispatch to tone out and give the message over radio and pager to evacuate.

H. On hearing the "EMERGENCY TRAFFIC – ALL PERSONNEL EVACUATE THE BUILDING" message, all apparatus drivers shall immediately activate the air horns on the apparatus in operation of a minimum of twenty (20) seconds. If personnel who are not radio equipped hear this signal, they shall immediately evacuate the structure. The objective is the personal safety of the firefighter. Equipment should be withdrawn only if it is required to assist the firefighter in his/her evacuation. After exiting the structure, all personnel shall go to a point outside the safety perimeter where company and Division officers shall immediately initiate a PAR using established departmental procedures for accounting for personnel on the fire ground.

5.0 INCIDENT REHABILITATION

5.1 Incident Commander

The Incident Commander shall consider the circumstances of each incident and make adequate provisions early in the incident for the rest and rehabilitation for all members operating at the scene. These provisions shall include: medical evaluation, treatment and monitoring; food and fluid replenishment; mental rest; and relief from extreme climatic conditions and the other environmental parameters of the incident. The rehabilitation shall include the provision of Emergency Medical Services (EMS) at the Basic Life Support (BLS) level or higher and the Rehab team.

5.2 Division / Group Officers

All Division / Group Officers shall maintain an awareness of the condition of each member operating within their span of control and ensure that adequate steps are taken to provide for each members safety and health. The command structure shall be utilized to request relief and the reassignment of fatigued crews.

5.3 Personnel

During periods of hot weather, members shall be encouraged to drink water and activity beverages throughout the day. During any emergency incident or training evolution, all members shall advise their Division / Group officers when they believe that their level of fatigue or exposure to heat or cold is approaching a level that could affect themselves, their crew, or the operation in which they are involved. Members shall also remain aware of the health and safety of other members of their crew

6.0 OPERATION OF REHABILITATION DIVISION / GROUP

6.1 Responsibility

The Incident Commander will establish a Rehabilitation Division / Group when conditions indicate that rest and rehabilitation is needed for personnel operating at an incident scene or training evolution. A rehab team member will be placed in charge of the division/group and shall be known as the Rehab Supervisor. The Rehab supervisor will typically report to Command.

6.2 Location

The location for the Rehabilitation Area will normally be designated by the Incident Commander. If a specific location has not been designated, the Rehab Supervisor shall select an appropriate location based on the site characteristics and designations below.

6.3 Site Characteristics

A. It should be in a location that will provide physical rest by allowing the body to recuperate from the demands and hazards of the emergency operation or training evolution.
B. It should be far enough away from the scene that members may safely remove their turnout gear and SCBA and be afforded mental rest from the stress and pressure of the emergency operation or training evolution.
C. It should provide suitable protection from the prevailing environmental conditions. During hot weather it should be in a cool, shaded area. During cold weather, it should be in a warm, dry area.

D. It should enable members to be free of exhaust fumes from apparatus, vehicles, or equipment (including those involved in the Rehabilitation Division/Group operations).
E. It should be large enough to accommodate multiple crews, based on the size of the incident
F. It should be easily accessible by EMS units.
G. It should allow prompt reentry back into the emergency operation upon complete recuperation.
H. Consideration should be given to multiple rehab sectors for use in large situations.

6.4 Site Designations

A. A nearby garage, building lobby, or other structure.
B. Several floors below a fire in a high rise building.
C. A bus.
D. Fire apparatus, ambulance, or other emergency vehicles at the scene or called to the scene.
E. An open area in which a rehab area can be created using tarps, fans, etc.

6.5 Resources

The Rehab Officer shall secure all necessary resources required to adequately staff and supply the Rehabilitation Area. The supplies should include the items listed below depending on the situation:

A. Fluids – water, activity beverage, oral electrolyte solutions, and ice.
B. Food – soup, broth, or stew in hot/cold cups, other.
C. Medical – blood pressure cuffs, stethoscopes, oxygen administration devices, cardiac monitors, intravenous solutions, and thermometers.
D. Other – awnings, fans, tarps, smoke ejectors, heaters, extra equipment, floodlights, towels, traffic cones, and fire tape (to identify the entrance and exit of the Rehabilitation Area).

6.6 Hydration

A critical factor in the prevention of heat injury is the maintenance of water. Water must be replaced prior to and during emergency incidents. During heat stress, the member should consume at least one (1) quart of water per hour. Re-hydration is important even during cold weather operations where, despite the outside temperature, heat stress may occur during firefighting or other strenuous activity when protective equipment is worn. Alcohol and caffeine beverages should be avoided before and during heat stress because both interfere with the body's water conservation mechanisms.

6.7 Rest

The “two air bottle rule,” or 45-minutes or work time, is recommended as an acceptable level prior to mandatory rehabilitation. Members shall re-hydrate (at least 8-ounces) while SCBA cylinders are being changed. Firefighters having worked for two (2) full 30-minute rated bottles, or 45 minutes, shall report to rehab for evaluation. In all cases, the objective of a members fatigue level shall be the criteria for rehab time. Rest shall not be less than ten (10) minutes and may exceed an hour as determined by the Rehab Supervisor. Fresh crews, or crews released from the Rehabilitation Division/Group shall be available in the Personnel Staging Area to ensure that fatigued members are not required to return to duty before they are rested, evaluated, and released by the Rehab Officer.

6.8 Personnel Resources

Command should consider Level II staging of additional personnel as backup/ replacement resources. This shall primarily be considered during three-alarm fires or greater.

6.9 Rescue Situations

Rehab provisions during situations that have the possibilities of bloodborne pathogens require extreme care in the preparation and distribution of hydration/food supplies. Designated rehab support individual(s) must draw and distribute these supplies. Personnel with direct involvement of patient care, or exposure to victim bodily fluids, shall only be the recipient of rehab supplies. Decontamination of contaminated personnel must occur prior to accessing rehab supplies.