Jackson Hole Fire/EMS Operations Manual

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PURPOSE

The purpose of this policy is to identify the Risk Assessment Process, which will lead to Strategic Decision Making by the Incident Commander during a Structure Fire Incident.

Structure Fire Incidents are dynamic, often times with minimal discretionary time to make informed decisions. Decisions made by the Incident Commander should be based off of the best information available, knowing that a pre-determined response to all incidents is not achievable.

SECTION I – DEFINITIONS

Risk Assessment – determining the likelihood and consequence of the hazard being realized.

Hazard – a situation that has the potential to cause injury, disease or damage.

Strategy – a plan of action designed to achieve an overall goal.

Tactics – an action or method to achieve a specific result.

Defensive Operations – a primarily exterior form of attack often used when fighting fire directly or from within a structure is not feasible due to dangers from direct flame, heat, structural collapse or the presence of hazardous materials.

Transitional Attack – water application from the exterior through a horizontal ventilation opening, reducing fire growth and buying time for a direct attack.

Offensive Attack – a primarily interior form of attack where water or other extinguishing agent is taken by firefighters to the seat of the fire.

Rescue Profile – evidence indicating whether victims remain inside of a structure such as occupant interviews, neighbor interviews, car(s) in the driveway, time of day, etc.

Survivability Profile – ability of a victim to survive the fire conditions before rescuers reach them and then survive their removal from the hazardous environment.

SECTION II – RISK ASSESSMENT PROCESS

The Risk Assessment Process will be dynamic, starting with the initial page and will not end until operations are terminated. As a part of the Risk Management Process, officers and crew leaders should initiate defensive decisions upon notification of a structure fire. Upon completion of a Risk Management Process, the decisions can then switch to offensive as appropriate. Once decisions have switched to offensive, operations will be performed aggressively and decisively.

Step 1: Identify Hazards

An Incident Command System, per the JH Fire/EMS Incident Management Policy 15-2, will be established for Command and Control of the incident and the associated hazards.

Establish, at a minimum, a Command Frequency and a Tactical Frequency per the On-Scene Radio Communications Policy 14-1. All resources arriving on scene will receive a briefing from the Incident Commander or Operations Chief. Leader's Intent should be clearly communicated with positive communications from resources. All personnel on scene are responsible for identifying and communicating hazards.

The Incident Commander, or designee, will perform a 360 Size-up. All 7 sides of the structure will be evaluated: 4 vertical sides, interior, roof and floor.

Once a hazard is identified, immediate action is needed to ensure the hazards are mitigated or managed.

- Access – Steep grades, bridges, safe apparatus positioning.
    - Mitigation – Pre-planning, know where unsafe locations for apparatus are within your response area.
    - Stage apparatus in a safe, efficient location during incident planning – See Apparatus Staging policy.
- Occupancy Type – Hazardous Materials, fuel load, Occupants that need additional assistance, etc.
    - Mitigation – Pre-planning, identify locations that have Hazardous Materials or have occupants that will need additional assistance to evacuate.
- Light-Weight Construction – Hazards associated with lightweight construction include:
    - ✓ Reduced mass of structural members
    - ✓ OSB Roof Decking
    - ✓ Truss systems with gusset plates or use of glue
    - ✓ Engineered Floor Joists

Unprotected (no sheetrock) lightweight structural members exposed to flame have been shown to fail in as little as 6 minutes.

    - Mitigation – Collapse is most likely to occur at the seat of the fire. Locate the seat of the fire, and have a high index of suspicion if the fire is burning in the attic or basement.
    - If the fire has been burning in the attic or basement for greater than 5 minutes or for an unknown time, limit exposure to firefighters through a transitional or defensive attack.
- Buildings Under Construction/Renovation – Alterations, blocked egresses, fall hazards, Non-functional/Disarmed fire suppression systems are only a few hazards associated with buildings under construction.
    - Mitigation – Limit exposure to firefighters through a transitional or defensive attack.
- Abandoned/Dilapidated Structures
    - Mitigation – Strategies at abandoned and dilapidated buildings shall be Defensive Operations.

- Wind-Driven Fire – Wind in alignment with ventilation openings will lead to rapid fire spread.
    - Mitigation – Do not create ventilation openings on the windward side of the structure.
    - If fire has self-vented on the windward side, limit exposure to firefighters through a transitional or defensive attack.
- Exposure to a hazardous atmosphere during overhaul
    - Mitigation – Firefighters will wear SCBA's during overhaul activities as defined in the SCBA Use policy.

Step 2: Risk vs. Benefit – Determine Values at Risk
If risk remains, does the benefit gained outweigh the possible consequences? Acceptable risk must be justified through standard Incident Priorities:

1. Life
2. Incident Stabilization
3. Property/Environment Conservation

Firefighters shall determine to the best of their ability **Rescue Profile**.

If there is a positive Rescue Profile, a **Survivability Profile** will be initiated. Occupant survivability can be related to heat and fire gases within the structure. Temperatures greater than 195° F for longer than 90 seconds or Carbon Monoxide greater than 1200 ppm will be untenable. Occupants can be protected by a closed door separating them from the seat of the fire.

- Turbulent Black smoke and flame coming from a compartment = Low Survivability
- Laminar flow grey smoke with no flame noted from a compartment = High Survivability
- Remember that closed doors, creating separate compartment greatly improves Survivability

If there is no potential for survival, fire control emphasizing reduced firefighter risk will be implemented prior to extending search and rescue operations.

Extend Limited Risk to protect Savable Property. Jackson Hole Fire/EMS will not risk the life of an Emergency Responder to save property.

Step 3: Incident Command will make Strategic Level Decisions
See Section III.

Step 4: Develop a Safe Action Plan
See Section IV.

Step 5: Re-evaluate Progress

SECTION III – INCIDENT COMMAND DECISION MAKING

The Incident Commander is responsible for making strategic level decisions. All decisions must be based on current and expected conditions. It is crucial for the Incident Commander to be decisive and effectively communicate the decision(s) through the chain of command. An Incident Commander should remain non-operational. If availability of resources requires the Incident Commander to act as the Officer of their crew at initial attack, Command can be transferred to the next arriving responder via radio transmission.

IF Life Safety = **THEN** SAR with a Hose Line, PPA or VES
IF Fire is Self-venting = **THEN** Transitional Attack
IF Savable Property = **THEN** Limit Exposure during Offensive Attack
IF Fire Burning Structural Members > 5 minutes = **THEN** Defensive or Transitional Attack
IF No Savable Property = **THEN** Defensive Attack

SECTION IV – SAFE ACTION PLAN

The Safe Action Plan incorporates the Risk Assessment plan and includes mitigation efforts.

Location of the Fire – Determine the location of the fire and where it is heading. Floor and ceiling collapse most often occur at the seat of the fire.

Control the ventilation flow path – Efforts to control the ventilation flow path will decrease fire growth and increase tenability within the structure. If a door is open, the Incident Commander or designee will close the door during the 360 Size-up. The door control will be maintained throughout the initial attack.

Control the utilities – Gas and Electric utilities should be turned off as soon as possible during fire operations.

- Mitigation – Electricity will be controlled from an exterior shut-off switch or by the main breaker in the breaker panel. Do not disturb breakers that have tripped. Contact Lower Valley Energy (LVE) to disconnect power, if no main shut-offs are located.
- Once gas is shut off, JHF/EMS members will not turn the gas back on. If natural gas, LVE will be contacted and residents advised not to turn on gas until LVE's arrival.

Adequate Resources Available – Examples of adequate resources include:

- Adequate number of personnel to perform all essential duties.
- Adequate water supply to meet the fire flow demand.
- Adequate size and number of hose lines to meet the fire flow demand.

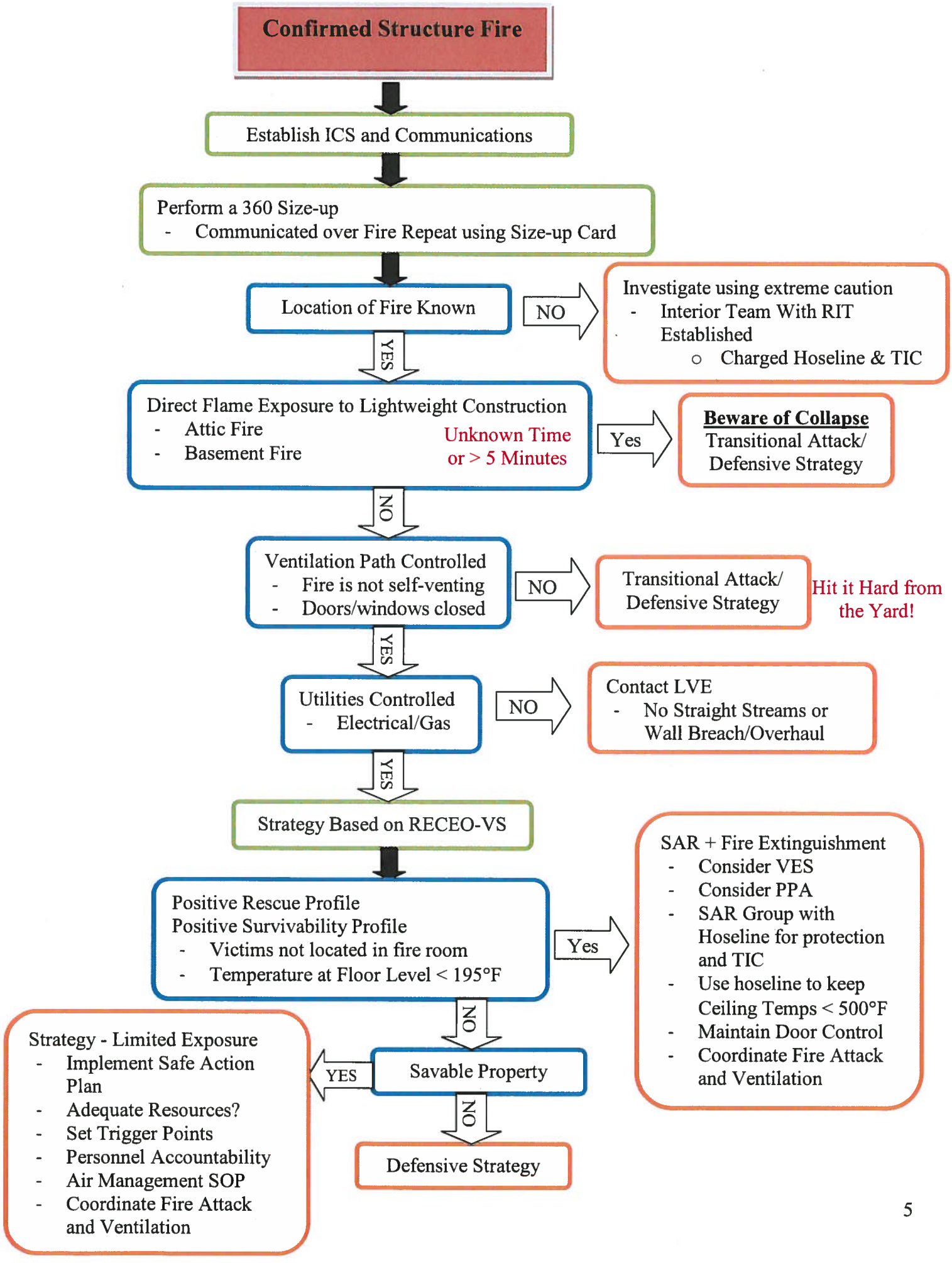
If adequate resources are not available, consider a limited risk strategy.

Tactics based on RECEO-VS

R – Rescue is the number one priority, based on the Survival Profile. An aggressive, quick attack on the problem could be used to eliminate the life hazard.
E – Exposures can be defined as structures, vehicles, or adjacent wildland fuels.
C – Confinement of the fire to a single compartment, single floor, single unit, etc.
E – Extinguishment should occur in a timely, efficient manner.
O – Overhaul efforts should be aggressive to reduce the possibility of rekindle.
V – Ventilation should be: coordinated with fire attack, systematic to improve effectiveness and members shall be disciplined in only ventilating when and where needed.
S – Salvage is a critical piece of property conservation, which shall be implemented as early as possible.

Means to Limit Risk

- ✓ Search with the protection of a hose line
- ✓ Personnel Accountability (See Personnel Accountability Report Policy)
- ✓ Establish RIT (See Survival and RIT Policy)
- ✓ Air Management (See Air Management Policy)
- ✓ Set Trigger Points based on time or conditions
- ✓ Ensure proper firefighter rehab


Confirmed Structure Fire
Establish ICS and Communications
Perform a 360 Size-up
- Communicated over Fire Repeat using Size-up Card
Location of Fire Known
NO
Investigate using extreme caution
- Interior Team With RIT Established
o Charged Hoseline & TIC
YES
Direct Flame Exposure to Lightweight Construction
- Attic Fire
- Basement Fire
Unknown Time or > 5 Minutes
Yes
Beware of Collapse
Transitional Attack/ Defensive Strategy
NO
Ventilation Path Controlled
- Fire is not self-venting
- Doors/windows closed
NO
Transitional Attack/ Defensive Strategy
Hit it Hard from the Yard!
YES
Utilities Controlled
- Electrical/Gas
NO
Contact LVE
- No Straight Streams or Wall Breach/Overhaul
YES
Strategy Based on RECEO-VS
Positive Rescue Profile
Positive Survivability Profile
- Victims not located in fire room
- Temperature at Floor Level < 195°F
Yes
SAR + Fire Extinguishment
- Consider VES
- Consider PPA
- SAR Group with Hoseline for protection and TIC
- Use hoseline to keep Ceiling Temps < 500°F
- Maintain Door Control
- Coordinate Fire Attack and Ventilation
NO
YES
Savable Property
NO
Defensive Strategy
Strategy - Limited Exposure
- Implement Safe Action Plan
- Adequate Resources?
- Set Trigger Points
- Personnel Accountability
- Air Management SOP
- Coordinate Fire Attack and Ventilation