



Pacific Fire Protection District Suggested Operating Guideline Overhaul

This Suggested Operating Guideline (SOG) has been established to provide basic operating guidelines for personnel. These guidelines are consistent with the tactics and Strategy Philosophy of the Pacific Fire Protection District. The guidelines are not all inclusive and may need to be deviated from by the Incident Commander, unit officers and other personnel, as conditions dictate. This SOG does not create rights, or duties, that are enforceable in court.

PURPOSE: This Suggested Operating Guideline addresses conducting overhaul operations at a fire scene, which may include procedures for evidence and crime scene protection.

PROCEDURE:

Conducting overhaul operations at a fire scene, which may include procedures for evidence and crime scene protection:

This procedure establishes guidelines for conducting overhaul operations. The goal of overhaul is to reduce the incidence of secondary fires, control loss, and stabilize the incident scene while providing for firefighter safety in doing so. Additional objectives include:

- Preserving evidence
- Securing the fire scene

Effective overhaul activities reduce the potential for secondary fires. When addressing overhaul operations, the Incident Commander (IC) should:

- Insure overhaul is conducted safely.
- Ensure allied equipment (Thermal Imaging Camera [TIC], portable foam applicator) are utilized when necessary.
- Insure all fire is extinguished, where possible.
- Use early and continuing positive pressure ventilation to maintain an acceptable working environment and reduce loss. Fire companies must evaluate and monitor conditions when operating fans.
- Meet with the property owner/occupant concerning overhaul operations.
- Schedule fire companies to conduct post-incident drive-by/walk-through of fire building to check for potential re-ignition sources.

Personal Considerations

- Full Personal Protective Equipment including mandatory SCBA. The same possibility of injury and illness exists during overhaul as during firefighting.

- Toxic atmospheres exist during overhaul operations. This is actually one of the worst times to remove S.C.B.A. because there is an abundant presence of toxic gases due to incomplete combustion, as well as accumulation of gases leftover from fire.
- Overhaul is a strenuous activity. Firefighters should pace themselves during overhaul operations. Firefighters exhausted from firefighting operations are more susceptible to injury. Due to this, these duties should be commenced with fresh, alert crews
- During rest breaks of fire crews, ensure at least two firefighters remain in the fire area to detect any possible hidden fire and re-ignition.

Safety Considerations

- Dangerous building conditions should be identified, barricaded and/or corrected. These include:
 - Weakened floors and ceilings due to fire
 - Fire damage
 - Water collection
 - Concrete spalled by intense heat
 - Wood-framed stairways weakened by fire
 - Deformed steel roof members (tensile strength is affected at about 500°F)
 - Walls pushed outward due to elongation of steel roof
 - Weakness of supporting member
 - Mortar decomposed in brick joints due to excessive heat
 - Gusset plates pulled out of roof trusses due to intense heat
 - Sharp debris/rubble
 - Wet, icy or slippery areas
 - Live utilities
 - Tripping hazards
 - Consider heavy roof mounted equipment's effect on continued structural integrity
 - Chimneys present special falling hazards Areas Exterior to the Structure May Present Hazards

Hazard considerations include:

- Potential building collapse
- Isolate and deny entry in an area at least 1 ½ times the height of the tallest wall
- Remove valuable property within potential collapse area only if safe to do so
- Electric transmission lines downed or damaged by the fire should be determined an isolated area and deny entry
- Minimum 25' exclusion area in all directions marked by yellow flagging
- Ice buildup in cold weather creates a great trip and fall hazard

Customer Relations:

In the absence of an occupant services sector, the IC, or the company officer should meet with the property owner/occupant to explain the reasons for overhaul operations. Where it is safe to do so, the IC, or company officer, may escort the property owner/occupant through the fire area to explain the need for overhaul operations. Proper loss control operations shall be completed prior to any walk-through. Providing the property owner/occupant the opportunity to remove

personal possessions/ valuables, or assisting them in boxing and removing these items is excellent customer service and a loss control opportunity.

Every effort should also be made to assist the property owner/occupant in notifying insurance agents of the fire.

Hidden Fires:

Fire suppression operations might not detect and extinguish small pockets of fire concealed in construction voids or hidden under debris. Overhaul activities include thoroughly searching the fire scene to detect and extinguish all hidden fires or “hot spots”. Within our standard Risk Management profile - “Risk a little and in a calculated manner to protect savable property” - suppression crews should open as many of these construction voids as is reasonably possible. Floor, wall, or ceiling areas showing evidence of extensive decomposition due to fire should be thoroughly examined during overhaul. Additional areas to check include wooden door jambs, air conditioning vents and registers, baseboards, door and window casing, metal to wood connections, ties, straps, conduits, and areas around light fixtures and electrical outlets. TICs, foam applicators, axes, pike poles, and Halligan tools, are most commonly used for this purpose. Although a TIC may not be able to see small hot spots, it can nonetheless be a valuable tool when looking for hidden fire/hot spots. Foam application during overhaul cannot guarantee complete suppression of all materials.

Attic fires can pose a special hazard for secondary fires where insulation has been exposed to fire. Large areas can receive fire damage and can be located in difficult to reach areas. In some cases, as much insulation as possible should be removed to extinguish all remnants of fire. It is understood that there is no possible way for firefighters to completely remove all insulation (especially cellulose insulation). Removing insulation in many cases means removal of large sections of ceiling. If possible, a risk/benefit discussion should be conducted with the owner/occupant to determine the extent of insulation removal. The department cannot be held responsible for secondary fires if the owner/occupant understands the risks associated with limited insulation removal. Plenum spaces, soffits and pipe chases should receive careful inspection as they provide routes for fire to spread throughout a structure. Some construction features do not allow this.

The IC is responsible for insuring that the fire area has been thoroughly overhauled. The company officer last leaving the scene is responsible for insuring fire extinguishment, when possible. The IC is further responsible for scheduling post-incident drive-by/walk-through inspections of the fire building when needed. Post-incident inspections include a walk-through of the building or areas that are safe to enter. Crews should search for an evidence of smoke or remaining hot spots. Crews should examine all materials below salvage covers. In some cases, crews may need to create additional openings in the structure. A post-incident inspection will be performed prior to the last fire department unit leaving the scene. The IC is responsible for assessing the need for additional post-incident inspections and coordinating the plan with Dispatch & Deployment. A reasonable period of post-incident inspections may be scheduled to prevent secondary fires in buildings that contain cellulose insulation. The IC may waive post-incident inspections if a fire watch is in place. If the IC believes the circumstances warrant fire watch, C99 should be dispatched to the incident. C99 will meet with the building owner/occupant to ensure that the owner/occupant understands Fire Code requirements including fire watch qualifications and cost, and to ensure that the owner/occupant complies with the Fire Code.

Cellulose Insulation Fires:

Cellulose insulation, which is one of the most commonly used insulation types, has been used in structures for several years. When exposed to heat, sparks or flames, cellulose insulation presents special problems for the fire service, businesses, and building owners/occupants. Hot spots can get buried deep inside cellulose insulation where they can lie undetected for several hours before breaking into fire. Fire companies at structure fires that have cellulose insulation will:

- Follow suggested operating guidelines for obtaining all-clear and fire control.
- Identify cellulose insulation as soon as possible.
- Evaluate the use of fans based on the presence of cellulose insulation.
- Follow suggested operating guidelines contained in this M.P.
- While it is widely recognized that it is impossible to remove all cellulose insulation from a structure, fire companies should remove as much insulation as possible.
- Have utility companies pull the electrical meter and ensure other utilities are secured.
- Consider a fire watch and call C99, if needed.
- Meet with the owner/occupant and the fire investigator to advise the owner/occupant that they should not occupy the structure.
- The investigator should provide all documentation.

Defensive Fires:

Overhaul activities as described above will not be conducted on structures that have been declared Defensive Fires. Firefighter safety prohibits standard overhaul activities in structurally compromised buildings. Crews will continue to apply water to hidden fire/hot spots from exterior positions until all fire is completely extinguished. During campaign operations, the IC will coordinate the rotation of crews through Dispatch & Deployment.

Evidence Preservation:

Companies performing overhaul should continuously weigh the importance of preserving evidence with the need to immediately remove debris and completely extinguish all traces of fire. In some cases, it may be necessary to monitor spot fires until investigators arrive on the scene. In these instances, evidence should remain untouched, undisturbed and in its original location. Where circumstances prohibit this, evidence should be removed under the direction of a fire investigator.

Securing the Fire Scene:

Securing the fire scene is also a function of overhaul. Securing refers to actions required to protect the structure and contents from any further loss after fire suppression companies have left the scene. Roof ventilation holes and broken windows should be covered to reduce weather damage and deter vandalism. Rolled plastic is ideal for this purpose. For safety reasons, remaining glass shards should always be removed from the frames of broken windows prior to installing covers or leaving the scene. Securing the scene also includes the actions required to insure the safety of all persons likely to visit the incident scene. Once a hazard zone is established during firefighting operations, it must not be abandoned prior to removing or

stabilizing the hazard. Overhaul companies must provide a means of identifying and guarding hazards that cannot be removed or stabilized. Barricades, hazard tape, and the posting of guards are all suitable methods depending upon its severity.

