

Events intended to gain control of a fire, including extinguishment operations, may result in a significant amount of loss to contents within a building as well as the building itself. There is little a fire department can do to prevent this loss, however, proper salvage and overhaul operations may reduce a fire's after-effects.

The following are some key points to consider in developing a good salvage and overhaul policy for your department:

- Purpose of salvage operations
- Salvage procedures
- Removing water
- Overhaul
- Additional purpose of overhaul
- Overhaul safety precautions
- Locating hidden fires
- Overhaul procedures

Use this document as a guide and develop what works well for your department.

Salvage

Salvage consists of methods and procedures that reduce smoke, water, and heat damage during and after a fire. It can start with the fire attack and be an ongoing process during fire suppression operations.

Purpose of Salvage Operations

- Protect public and private property
- Reduce fire loss
- Promote good public relations

The type of incident (fire, water damage, smoke, etc.) will dictate the priorities relating to salvage operations.

Considerations include:

- Type of structure
- Size of structure
- Occupancy
- Residential: Start with irreplaceable belongings such as photographs, jewelry, medications, and other sentimental items. Next, move on to clothing and essentials, followed by furniture bedding, etc.
- Commercial & Industrial: Give priority to any bookkeeping materials and other records that include computers and filing cabinets, then move to merchandise.
- Progression of the incident at the time of arrival
- Value of contents
- Fire sprinklers and other automatic suppression systems

- Possible locations of records and files (including computers)
- Available salvage equipment

An effective salvage operation begins with a good scene size-up as part of a coordinated attack. Salvage size-up can start with the pre-planning of buildings to identify areas that may be a salvage priority. Consider the size-up upon dispatch and throughout all phases of the fire ground operation.

Consider the following in your salvage size-up:

- **Probabilities:** Possible hazards, weather, etc.
- **Facts:** Nature of the incident, type of occupancy, building construction.
- **Available Resources:** Type and quantity of necessary resources and personnel to perform effectively.
- **Decisions:** What objectives do you need to accomplish?
- **Plan of Operation:** How will you accomplish the objectives?
- **Forcible Entry:** Know how to gain access with the least amount of damage and ensure the urgency of the situation warrants any damage.
- **Ventilation:** Ventilation will decrease damage due to its ability to confine the fire and other damaging products. The rapid removal of heat and other combustible products can significantly lower the amount of direct fire loss.
- **Application of Water:** Managing hose streams is not a standard function of ladder work. Applying water at the wrong time, from the wrong place, or with the wrong nozzle pattern can cause a significant amount of preventable damage. Make every attempt to locate the fire's seat and only apply as much water as needed to control the situation.

Common Salvage Tools

Salvage covers, hall runners, salvage bags, plastic sheeting, water vacuums, scoop shovel, squeegees and mops, fans.

Salvage Procedures

- Cover contents of the rooms below the fire floor as early in the incident as possible.
- Gather, arrange, and cover contents before pulling a ceiling.
- Place contents in close piles to minimize the number of salvage covers.
- Group furnishing away from walls.
- Do not stack materials too close to the ceiling.
- If possible, lift and place stock on pallets or skids.

- To prevent further damage to the property from the elements, ensure any openings are adequately covered.

Removing Water

Removing water from a structure is limited to the equipment on hand and the training of the firefighters.

The following are some items to consider in eliminating water:

- Open clogged drains
- Remove toilets or use existing piping
- Use salvage covers as shuts
- Utilize dewatering devices or water vacuums

Overhaul

Overhaul means opening walls, ceilings, voids, and partitions to check for fire extensions in both the pre-control and post-control phases of the firefighting operation. Pre-control overhaul takes place up until the point where the fire is under control. Post-control overhaul takes place after the fire is under control.

Additional Purpose of Overhaul

- Prevents fire extension and rekindles
- Assists in determining the fire cause
- Prevents unnecessary damage
- Places building in a safe condition
- Improves public relations

Overhaul Safety Precautions

- Overhaul operations should not start until authorized by the Incident Commander or Fire Investigator.
- Use full protective clothing and Self-Contained Breathing Apparatus (SCBA) during overhaul operations.
- Adequate lighting is needed during overhaul to prevent accidents or excess damage.
- A supervisor should direct overhaul operations.
- A charged hoseline should be available during all overhaul operations.

Locating Hidden Fires

- Smoke issuing from baseboards, cornice (horizontal wall projection), outlets, and other openings and cracks
- Obvious smoke smell
- Discoloration of wall, floor, or ceiling
- Peeling paint, cracked plaster, and rippled wallpaper

Overhaul Procedures

- Plan overhaul to limit further damage and consider restoration of the area.

- Begin overhaul in the area of the most severe fire involvement.
- When conditions permit, firefighters should make neat and planned openings to check for the fire extension. If it is not appropriate to use small openings, a firefighter may have to open ceilings and walls. When doing so, look for electrical outlets, plumbing, and gas lines before proceeding.
- Feel walls and floors with the back of the hand or use electronic sensors to check for hot spots.
- Thoroughly check insulation materials for hidden fires.
- Submerge small items in water to reduce damage.
- Remove large objects and thoroughly extinguish them outside.
- Do not damage evidence. Leave evidence in place until the officer conducting the fire investigation can examine it.
- Remove evidence only if it is in danger of being destroyed.
- Protect the scene from unauthorized entry; keep civilians out until the scene is released.
- If an investigator has been dispatched to the scene, fire personnel must remain on the property until the investigator arrives (check with your local investigator).
- Personnel assigned to a fire watch should routinely walk through the building to check for rekindles.
- Ventilate to remove heat and smoke from the structure to permit entry by investigators, etc.

Conclusion

The success or failure of salvage operations is a direct result of the degree to which firefighters have trained with salvage and overhaul equipment and techniques. It is imperative to make salvage and overhaul a large part of your department's ongoing training.

References

- National Fire Protection Association (NFPA 1001-1500-1720)
- US Fire Academy
- International Association of Fire Chiefs
- US Fire Administration Library
- Fire Engineering