



## Rogers Fire Department Standard Operating Procedures

<b>Policy Title:</b>	Flue Fire Response		
<b>Policy Number:</b>	512	<b>Volume:</b>	Tactics
<b>Approved By:</b>	Tom Jenkins	<b>Last Updated:</b>	January 2017
<b>CFAI Reference:</b>	5A.4	<b>CAAS Reference:</b>	N/A
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### PURPOSE

The purpose of this policy is to establish a standardized approach for Rogers Fire Department units when responding to flue and chimney fires.

### POLICY

The Rogers Fire Department is often called upon to respond to fires in fireplace flues and chimneys. These fires present unique challenges due to the limited opportunity to visualize and access the fire area. Flue fires require specialized tactics in order to extinguish them in a timely manner while ensuring that the fire does not extend out of the flue and involve other portions of the structure. Due to these factors it is important that flue fires are approached in a methodical and standardized manner.

Flue and chimney fires will receive a standard Building Fire response assignment consisting of 3 Engines, 1 Ladder, Rescue 2, 1 Medic Unit, and the Battalion Chief. As with any type of fire incident, the first arriving company should perform a thorough size-up of the structure and transmit a brief initial radio report of their findings. If fire extension into the structure is located the incident should be treated as a building fire and the appropriate Standing Fireground Orders indicated in SOP 409 should be followed.

Once the incident is identified as a flue fire the first arriving suppression company will establish a Division on the floor where the fireplace is located. Subsequent arriving suppression companies should be assigned to investigate all areas through which the flue pipe/chase passes for signs of fire extension. This will typically be accomplished by assigning companies to establish Divisions on the floors above the fire, in the attic, and on the roof, with the purpose of visually inspecting floors and walls for signs of fire extension and utilizing thermal imaging cameras to identify areas of elevated temperatures.

Signs of fire extension into ceilings and walls include: discoloration or blistering of surface materials; hot surfaces; and smoke emitting from cracks, electrical

outlets, light fixtures, eaves, and roof coverings. Ceilings and walls should be opened when fire extension is suspected and standard overhaul practices should be utilized.

All personnel operating at a flue fire incident must utilize full PPE and SCBA as outlined in SOP 305.

## **Scene Responsibilities**

### Division on the Floor with the Fireplace (Typically the 1<sup>st</sup> due Engine Company)

The first arriving fire suppression company should establish a Division on the floor where the fireplace is located and perform a size-up of the firebox and the adjacent walls and ceiling. During this investigation consideration should be given to closing the fireplace door and air intakes in order to limit the air flow to the fire in the flue; however the fireplace damper should remain in the open position to allow smoke from the fire box to escape up the flue.

Once it has been confirmed that there is no fire extension into the adjacent walls and ceiling the fire floor Division should begin the process of extinguishing the fire in the firebox and flue. The primary method to extinguish flue fires utilized by the RFD involves using an ABC dry chemical extinguisher from the base of the flue utilizing the following steps:

1. Deploy a canvas salvage cover to protect the floor near the fireplace from sparks and burning embers.
2. Utilize the chimney kit to remove the contents of the firebox to the exterior of the house for extinguishment.

*Note: The following steps should not be performed until it has been confirmed that there is no fire extension to any part of the structure and all areas (subsequent floors, attic, and roof) are continuously monitored.*

3. Deploy a positive pressure ventilation (PPV) fan to the most appropriate entrance to create a flow path up the flue and ensure that all other windows and doors are closed.
4. Insert the tip of an ABC dry chemical extinguisher into the base of the flue and discharge the extinguisher in 1-2 second bursts. Repeat this step as necessary until the flue fire is extinguished.

If unable to extinguish the flue fire using the ABC dry chemical extinguisher and PPV fan consider other methods of extinguishment such as water application, carbon dioxide extinguisher, or chimney chain.

When utilizing water to extinguish the flue fire, care should be taken to use the least amount of water necessary to extinguish the fire in order to prevent rapid cooling of the flue which may result in damage to the masonry and flue liner.

When utilizing a carbon dioxide extinguisher to extinguish the flue fire, ensure that the fireplace door is maintained in the closed position. Discharge the extinguisher from the top of the chimney and allow the carbon dioxide to settle down throughout the flue.

#### Attic Division (Typically the 2<sup>nd</sup> due Engine Company)

The fire company assigned to the Attic Division should investigate the attic area for signs of fire extension prior to attempts to extinguish the flue fire. The Attic Division should remain in place throughout the extinguishment process to ensure that pressurization of the flue does not promote fire extension into the attic through cracks or defects in the flue.

#### Roof Division (Typically the 3<sup>rd</sup> due Engine Company)

When roof and weather conditions permit, a company should be assigned as the Roof Division in order to inspect the top of the flue, the flue chase, and the area of the roof through which the flue passes prior to attempts to extinguish the flue fire. Entry onto the roof will typically be easiest and safest when aerial ladders are utilized to access the roof. Aerial ladder usage will be facilitated by the proper placement of ladder companies at the front of the structure upon their arrival. Roof Division members should assess the roof's stability and surface conditions prior to operating on the roof and should utilize a roof ladder whenever possible.

Roof Division members should remove the chimney cap and inspect the flue pipe. The Roof Division should remain in place throughout the extinguishment process and should watch for ABC dry chemical agent to exhaust from the top of the flue to ensure the presence of an adequate flow path.

#### Search and Rescue Group (Typically the Ladder Company)

As with all fires in structures a company should be assigned to complete both a primary and secondary search of the building.

#### Water Supply

The typical flue fire will not require the establishment of a continuous water supply from a hydrant; however the Incident Commander should consider having the driver of the 2<sup>nd</sup> due engine standby at the closest hydrant while the crew is given an assignment.

## Chimney Kit

A chimney kit should be located on all fire apparatus and should contain at least the following items:

- Metal bucket
- Canvas salvage cover
- Shovel

## Post-Incident Procedure

After the flue fire is extinguished fire department personnel should direct the homeowner/occupant to have the fireplace and flue cleaned and inspected by a professional chimney service prior to using it again.

Hypothetical ICS Chart for a Flue Fire Incident

Basic ICS Organization, 1<sup>st</sup> Alarm Level

(Engine 2, Engine 3, Engine 4, Ladder 1, Rescue 2, Medic 1, BC1)

