

Overhaul Policy: 20 Minute Cool-Down Period

Following a FF injury where a circa 1920 single family structure fell from its unreinforced cripple walls during overhaul operations, the observation of personnel removing SCBA during overhaul, and a pattern of overhaul related injuries, our department endeavored to revise our Overhaul Policy. The effort resulted in the following “20 Minute Cool-Down Period.” I believe that the policy has served to change what was previously an overly aggressive approach to overhaul. The use of thermal imaging cameras and Class A foam have also served to reduce overhaul related injuries. I hope that this information is useful for you as we approach Safety, Health and Survival Week.

Cool-Down / Survey / Plan

After the initial knockdown of the active fire, companies engaged in suppression operations will withdraw from the building, and allow for a cool-down period of at least 20 minutes, before considering overhaul operations. The IC or Operations Chief will ensure that all on scene personnel are aware and in compliance with the “20 minute cool down period.” The Incident Commander (IC) or Operations Chief will conduct a meeting with all officers to establish an overhaul plan. The plan shall include an assessment of structural stability, air monitoring, PPE required for overhaul, personnel assigned to overhaul, whether a Rapid Intervention Crew (RIC) will be employed, and estimated time for completion of overhaul.

After the 20-minute cool-down period has elapsed and air monitoring has been conducted, overhaul operations may begin in coordination with Arson Investigators.

Structural Stability

An assessment of structural stability shall be performed prior to beginning overhaul operations. This assessment shall include inspection of vertical load resisting systems, lateral load resisting systems, truss, floor, and roof system stability. Additionally, the structure shall be inspected for other hazards such as broken glass, exposed sharp objects (nails, wires, etc), and any other hazards present. Necessary mitigations of safety hazards found shall be implemented as a top priority. In the event that the IC or scene safety officers have identified instability the following shall be performed:

- Deny entry and post sentry at building entryways.
- Follow procedure for identifying and marking of life safety hazards.
- Request City of San Jose – Building Department Engineer for assistance in establishing an action plan.

Entry into unstable structures or unstable areas is prohibited. The IC shall Determine appropriate actions with the assistance of the structural engineer(s).

Note: Structural stability shall be an ongoing consideration throughout overhaul. Care should be taken to not compromise structural stability during overhaul operation.

Respiratory Protection

Personnel will use appropriate PPE at all times. For maximum protection, use full turn-out gear with SCBA. The use of wildland coats may be worn upon approval by the IC.

The IC shall obtain a report on the CO levels in the structure. SCBA shall be worn when CO levels are at 35 ppm or above. Dust masks may be used when the CO level has dropped below 35 ppm, and if no

other respiratory hazards are suspected (i.e. Smoky, noxious conditions, hazardous materials, etc.). If an Incident Safety Officer is assigned to the incident, he/she will coordinate air monitoring and make a recommendation to the IC about PPE requirements.

Smoky environments are deadly! It is essential to use self-contained breathing apparatus any time you are operating in a smoky environment. This applies whether it is a structure fire, dumpster fire, car fire, or any other type of fire that generates smoke. Common toxic gases in smoky environments:

- Carbon monoxide
- Hydrogen chloride
- Hydrogen cyanide
- Carbon dioxide
- Nitrogen dioxide
- Phosgene
- Ammonia
- Chlorine

-Fundamentals of Fire Fighter Skills, 2004 Chapter 5, Fire Behavior Jones and Bartlett Publishers, Inc., and the National Fire Protection Association.

The IC shall make a radio announcement and/or verbally report to all officers on scene the proper breathing device that shall be utilized. The decision to remove SCBA during overhaul must be based on several factors including sufficient natural ventilation, and/or mechanical ventilation that do not introduce additional CO into the environment (electric smoke ejectors). HIT 29 and the USAR companies have the air monitoring equipment necessary to determine the quality of the atmosphere and can determine the CO level. Additionally, the area should be continually cooled and ventilated, as needed, in order to limit the amount of smoke and vapors being generated from the burning debris.