

**WAC 296-305-08000 Appendices.** These appendices are nonmandatory and are included for reference and information purposes only.

Appendix B—Nonmandatory: Life safety ropes. (1) Life safety rope may be significantly weakened by abrasion, misuse, contamination, wear, and stresses approaching its breaking strength, particularly impact loading. Since there are no approved methods to service test a rope without compromising its strength, rope rescue and training operations should be carefully observed and monitored for conditions that could cause immediate failure or result in undetectable damage to the rope.

(2) If a rope has been used in a situation that could not be supervised or where potential damage may have occurred, it must be removed from service and destroyed.

(3) It is important that ropes be inspected for signs of wear by qualified individuals after each use. If indication of wear or damage are noted, or if the rope has been stressed in excess of the manufacturer's recommendation or impact loaded, it must be destroyed.

(4) The destruction of the rope means that it must be removed from service and altered in such a manner that it could not be mistakenly used as a life safety rope. This alteration could include disposing of the rope, or removal of identifying labels and attachments, and cutting the rope into short lengths that could be used for utility purposes.

(5) The assignment of "disposable" life safety ropes to members or to vehicles has proved to be an effective system to manage ropes that are provided for emergency use and are used infrequently. Special rescue teams, which train frequently and use large quantities of rope, should include members who are qualified to manage and evaluate the condition of their ropes and determine the limitations upon their re-use.

Appendix C—Nonmandatory: Decontamination. (1) A decontamination area should be established whenever civilians or fire department personnel have had known or suspected exposure to toxic chemicals.

(2) Such decontamination areas should be established before any personnel are allowed to enter the "Hot" zone.

(3) The decontamination area should be set up using the following guidelines:

(a) The decontamination area should be located uphill, upwind and at a right angle to the "Hot" zone.

(b) The decontamination area entry/exit point and boundaries should be clearly marked using flagging tape, ropes, cones, etc.

(4) 4 to 6 mil poly sheeting should be spread on the ground in the decontamination area to control runoff.

(5) The decontamination process is divided into stations. In most cases it will not be necessary to utilize all the stations. The decision to use all or part of the stations should be based on the following factors:

(a) The hazards associated with the product involved.

(b) The estimated levels of contamination.

(c) The type of protective equipment worn by contaminated responders.

(d) Recommendations from outside sources such as, but not limited to CHEMTREC, the agency for toxic substance and disease registry, poison control centers or the manufacturer of the product.

(6) The following is a list of all the stations in a nine-step decontamination area set up for a worst case scenario involving a haz-

ardous materials response team member whose chemical suit has been breached:

(a) Station #1 - Segregated equipment drop: Contaminated equipment that will be used again in the "Hot" zone, disposed of, or decontaminated at a later time or place, will be deposited here.

(b) Station #2 - Wash/rinse: Entry personnel will be washed with appropriate decontamination solution and rinsed with water by attendant(s) to remove gross contamination. This station may consist of multiple wash/rinse steps depending on the severity of the hazards involved.

(c) Station #3 - Outer protective clothing removal: Attendant(s) will remove the outer protective clothing from entry personnel being cautious to avoid touching the inside of the suit while removing it. Protective clothing that has been removed at this step must be placed in an overpack or other appropriate container for later testing and further decontamination, if needed.

(d) Station #4 - Removal of SCBA: The entry personnel are assisted in removing their SCBA by an attendant. The SCBA facepiece should be left in place and the low pressure hose held away from any potentially contaminated inner clothing.

(e) Station #5 - Removal of inner clothing: All clothing worn inside the suit must be removed in cases where the suit has been penetrated and the entry personnel are contaminated.

(f) Station #6 - Personal shower: Entry personnel should wash and rinse entire body with mild soap and water. Contain runoff water if possible, however this is an emergency situation and containment is secondary to removing contaminants from personnel.

(g) Station #7 - Drying off: Entry personnel that have showered should dry off using towels or whatever is available. Items used should be placed in an appropriate container for disposal. Emergency clothing such as disposable coveralls should be provided.

(h) Station #8 - Medical evaluation: Entry personnel should be evaluated by paramedics - checking vital signs including temperature and level of consciousness. Records of the evaluation must be kept and given to the team safety officer to be included in the members exposure records.

(i) Station #9 - Transport to emergency room: Any personnel exhibiting any signs or symptoms of exposure should be transported to the emergency room for evaluation and observation.

(7) The hazardous materials response team van should carry pre-measured packets of decontamination solution mixes for the purpose of decontaminating chemical protective clothing and other equipment at the scene of a hazardous materials emergency. These solutions are not to be used to decontaminate turnouts or exposed skin under any circumstances.

(8) The primary solution used will be a simple detergent and water mixture. Other special decontamination solution mixes will only be used in those situations when it is determined that the detergent and water solution is inappropriate.

(9) Contaminated civilians that are exhibiting signs or symptoms of exposure should be treated as patients. Due to the risk of secondary contamination, all patients should undergo emergency field decontamination at the scene before being evaluated by medical personnel or being transported to the emergency room. Medical personnel should not accept any patient that has not been grossly decontaminated.

(10) The emergency field decontamination process should consist of removing the clothing from all affected body parts of the exposed

person and flushing with copious quantities of water from a garden hose or low pressure one and three-quarter inch handline to remove gross contamination. Patients will be flushed for up to fifteen minutes, depending on the material recommendations on patient decontamination.

(11) Members performing patient decontamination should wear, at a minimum, full turnouts and SCBA and should avoid splashes and overspray to the extent possible. They should also undergo decontamination when they have finished decontaminating the patient.

(12) Containment of the runoff water from patient decontamination is not required. Do not delay decontamination of patients to set up containment. However, some form of privacy screen should be erected to protect the modesty of those being decontaminated.

(13) Responders that are contaminated in the process of performing rescue or other tasks will, at the minimum, be flushed with water for a minimum of one minute. Further flushing will be performed depending on the extent of contamination and subsequent adverse health effects.

Appendix D—Nonmandatory:

## Guidelines for Managing Two-in/Two-out

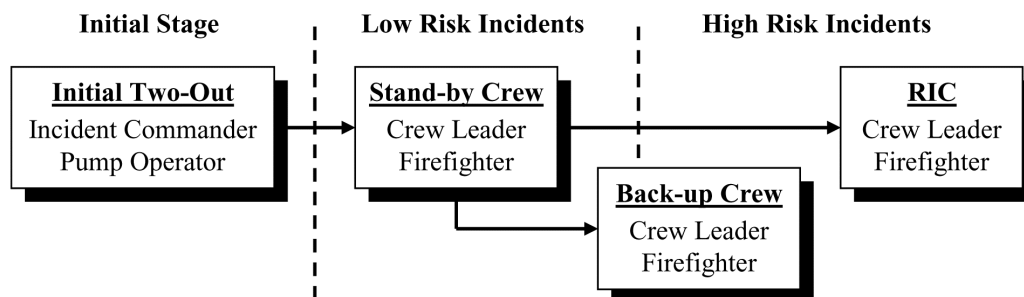
### Rapid Intervention (Two-in/Two-out)

Incident Commanders must maintain rapid intervention capability (Two-out) so that, should the need arise, a rescue crew is readily available to provide for the rescue of any responders operating within a hazard area (Two-in). A hazard area is defined as any area that requires the use of PPE or in which a responder is at risk of becoming lost, trapped, or injured by the environment or structure. This includes entering a structure reported to be on fire, operating in close proximity to the structure during exterior operations, confined space operations, rope rescue, haz-mat, etc.

Rapid Intervention is the **systematic management** of response to a “Mayday” situation where the need for an immediate rescue of emergency responders has become necessary.

**Responsibility** – Incident Commanders are ultimately responsible for the incident outcome and the safety of all responders operating at the scene. Therefore, Incident Commanders must maintain a constant balance between the urgent need to perform critical tasks and the personal safety of the responders performing those tasks. To support this, and before responders can be assigned to operate within a hazard area, Incident Commanders must establish a two-out resource capable of providing rapid intervention. Incident Commander must maintain this capability throughout the incident until the risk to responders has been sufficiently mitigated.

**Providing Two-Out Capability** – The methods for providing Two-out should match the incident’s degree of potential risk and can evolve as resources become available. The following flowchart provides a decision-making guideline, illustrating a model sequence for determining how, and to what extent. Two-out capability should be provided so that it corresponds with the incident stage, size, complexity, and level of risk to responders.



For high risk incidents, a RIC should be assigned, given time to prepare, while the Stand-by Crew provides two-out. Once ready, the RIC replaces the Stand-by Crew who can move up to Back-up.

### Two-Out Staffing Options

**Initiating Two-out** – During the “Initial Stage” of an incident, the two-out provision may be provided as a secondary responsibility by the Pump Operator and the Incident Commander.

The “Initial Stage” of an incident is defined as the stage that encompasses the tasks undertaken by the first arriving company with only one crew assigned or operating in the hot zone.

Once a second crew is assigned to operate within the hazard area, the incident is no longer in the “Initial Stage”. With multiple crews operating in a hazard area, the Incident Commander and Pump Operator’s ability to realistically function as an effective two-out rescue crew drastically diminishes. At this point, the Incident Commander shall assign a dedicated crew of two-out, which may be in the form of a Stand-by Crew or a RIC.

**The IC and Pump Operator can only initiate Two-out during the Initial Stage**

**Stand-by Crew** - A Stand-by Crew is assigned when the Incident Commander opts not to assign a RIC Crew. This would be done as a short term assignment for incidents that can be quickly and safely mitigated because they are contained, limited to contents, and are of minimal risk to responders. Examples include a smoldering mattress, an appliance fire, or a stovetop fire.

**Standby Crews are assigned as a short term two-out provision for low risk incidents**

A Stand-by Crew can also be assigned as an interim step while waiting for a RIC to arrive and/or assemble. A Stand-by Crew consists of at least two firefighters held outside the hazard area, available for immediate assistance or rescue of an entry crew. Once relieved by a RIC, the Stand-by Crew may be assigned to become a Back-up Crew.

**Rapid Intervention Crew (RIC)** – Functionally synonymous to a Stand-by Crew, a RIC is assigned for high risk incidents involving sustained operations to replace the Stand-by Crew. A RIC consists of at least two firefighters held outside the hazard area available for immediate assistance or rescue of an entry crew operating within the hazard. It must be recognized that a RIC alone may not be adequate when it comes to actually conducting a rescue of a trapped firefighter. Therefore, it must be understood that the primary role of a RIC is only to initiate the rescue effort.

**RIC should be assigned to replace the Stand-by Crew during high risk incidents**

The primary role of a Stand-by Crew or RIC is to:

1. **Locate** and gain access to the firefighter in peril;
2. Provide them with **emergency air** management; and to
3. Provide **reconnaissance** information to the Incident Commander for the coordination of additional crews assigned to support the rescue effort. **Rescue if able.**

**RIC effectiveness is limited to only reacting to a rescue situation**

### **Back-up Crews**

Back-up Crews are strategically pre-positioned in the immediate vicinity of crews operating in areas with a high level of risk. A pre-positioned back-up crew is the most familiar with the other crew’s location, situation, the hazards they are exposed to, and the immediate surroundings. A back-up crew’s placement also positions them to better recognize a potential or developing “Mayday” situation, enabling them to immediately intervene, thus averting a “Mayday” situation.

Back-up Crews are intended to provide a crew of at least two members positioned offensively with a charged hose line and/or other applicable equipment. Back-up Crews operate with three given priorities. In coordination with the Incident Commander and in order of priority, they are assigned for the specific purpose of:

**Back-up Crews provide protection because they are positioned in a manner that allows them to initiate actual intervention**

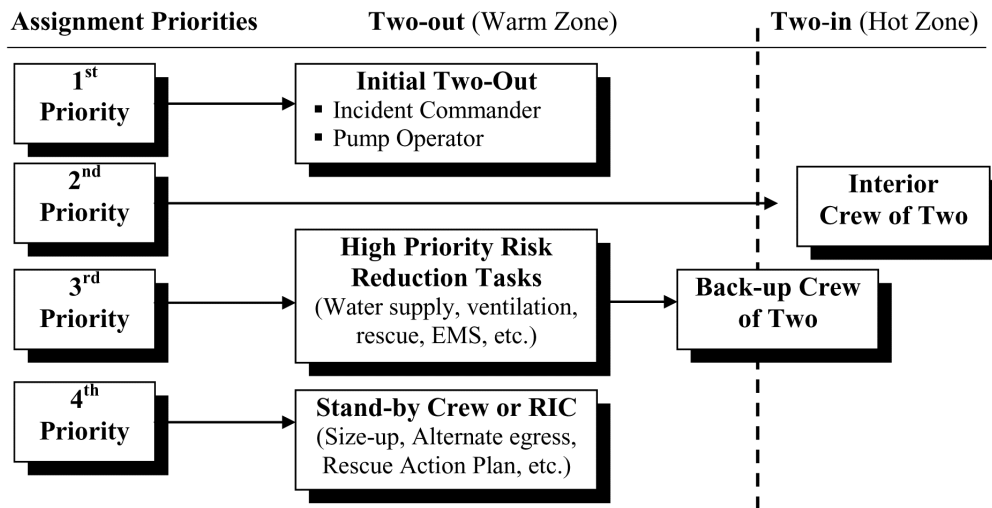
1. As dictated by fire and/or other hazardous conditions, protecting the means of egress for interior crews;
2. Serving as the Incident Commander's eyes and ears specifically to assess conditions within the Hot Zone, conveying risk assessment reconnaissance information to the Incident Commander, monitoring conditions, and if conditions begin to deteriorate, immediately initiating the appropriate form of intervention;
3. If priorities 1 and 2 are accounted for, conducting a primary search, or supplement initial fire attack efforts.

Although protecting egress is the Back-up Crew's primary responsibility, they may also support entry crews with hose advancement, victim removal, monitoring fire extension, etc.

As a general guideline, Back-up Crews are assigned with the following progression:

- If an entry crew is assigned to enter the hazard area, a Stand-by Crew or RIC must also be assigned as the two-out provision for providing rapid intervention capability.
- If a RIC has been assigned, the Stand-by Crew can move up to become the Back-up Crew.

**Deployment Order of Priority** (Structure Fire Example) – Though maintaining Two-in/Two-out is a requirement, how the Incident Commander chooses to do so is flexible. The following flowchart provides a decision-making guideline for planning tactical assignments while maintaining Two-in/Two-out. The following sequence is intended to guide crew deployment in a manner that balances the need to initiate and establish a Two-out crew while also assigning crews to critical incident mitigation tasks within the hazard area.



**Adjacent and Additional Crews**

Case studies prove that a Stand-by Crew or RIC operating alone may not be sufficient when rescuing a trapped firefighter when extrication and/or rescue are required. Rescue efforts will likely require the support of additional crews to provide extrication equipment and rescue personnel. To create these supporting crews the Incident Commander can reassign adjacent crews or assign additional crews, generally a combination of the two.

**Adjacent Crews** – When a crew declares a “Mayday”, the rescue efforts initiated by other crews operating in close proximity is nearly as effective as what a back-up crew can provide. Adjacent crews may be in a position to suspend their current assignment and immediately initiate rescue efforts. But if an adjacent crew is performing an activity that will protect rescue efforts, they should not be re-assigned if suspending their current assignment would potentially compromise this protection. Re-assignment of adjacent crews does not preclude the deployment of the Stand-by Crew or RIC. The primary role of the Stand-by Crew or RIC is to locate the firefighters in peril, provide them with emergency air management, and to facilitate their rescue.

**Crews must not self-dispatch!**

**Additional Crews** – When a crew declares a “Mayday, Mayday, Mayday”, additional crews can be assigned by the Incident Commander to support rescue efforts or to replace adjacent crews who were re-assigned to the rescue effort. Additional crews will generally be deployed from a staging area.

**Resource Reserve** – Incident Commanders should maintain a reserve of resources so that if a rapid intervention must be initiated, they have enough resources to support the rescue effort while continuing to sustain the original incident operations. Often this means calling for additional resources, second, or third alarms. Early consideration should be given to assure these reserve resources are on scene and available when needed.

Appendix E—Nonmandatory: Standard apparatus operation communications.

When firefighters ride in the tiller's seat or other remote location, an electrical signal or voice communication should be installed between the tiller's seat, work station, and driver's compartment.

(1) These signals should be used between the driver and the firefighters:

- (a) One long buzz means stop;
- (b) Two buzzes mean forward;
- (c) Three buzzes mean reverse.

(2) Before any of the above functions are undertaken, with the exception of stopping, the same signal must be both sent and received. The driver should not act without sending and receiving a confirming signal.

(3) When using hand signals, these signals are as follows:

STOP

Hold hand to the side, shoulder high, exposing palm to the driver. At night, hold hands in the same manner, with the addition of a flashlight in one hand shining at the driver. This will indicate an immediate STOP.



STOP

Hold hand to the side, shoulder high, exposing palm to the driver. At night, hold hands in the same manner, with the addition of a flashlight in one hand shining at the driver. This will indicate an immediate STOP.

RIGHT OR LEFT

Point in the desired direction with one hand and motion in a circular "come-on" gesture with the other hand at the chest level. At night direct a flashlight beam at the hand pointing in the desired direction.



RIGHT OR LEFT

Point in the desired direction with one hand and motion in a circular "come-on" gesture with other at the chest level. At night, direct a flashlight beam at the hand pointing in the desired direction.

DIMINISHING CLEARANCE

Hold the hands to one side of the body indicating the approximate amount of distance the apparatus is from the obstacle. Close hands accordingly as the driver slowly maneuvers the apparatus to point where the signal indicates immediate STOP. Always allow enough for drivers reaction time.

At night, indicate in the same manner with the flashlight in the upper hands and beam directed at the palm of the other. On STOP, cover the flashlight beam with the hands.



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Hold the hands to one side of the body indicating the approximate amount of distance the apparatus is from the obstacle. Close hands accordingly as the driver slowly maneuvers the apparatus to point where the signal indicates immediate STOP. Always allow enough for divers reaction time. At night, indicate in the same manner with the flashlight



in the upper hands and beam directed at the palm of the other. On STOP, cover the flashlight beam with the hands.

AHEAD OR BACK UP

Hold hand directly in front, chest high, fingers on hands directed toward one another, and motion in a circular "come-on" gesture. At night hold a flashlight in one hand and direct the beam toward the other.



AHEAD OR BACK UP

Hold hand directly in front, chest high, fingers on hands directed toward one another, and motion in circular "come-on" gesture. At night hold a flashlight in one hand and direct the beam toward the other.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-305-08000, filed 11/6/18, effective 12/7/18. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060 and 29 C.F.R. 1910.156, Fire brigades. WSR 13-05-070, § 296-305-08000, filed 2/19/13, effective 1/1/14. Statutory Authority: RCW 49.17.010, [49.17].050 and [49.17].060. WSR 96-11-067, § 296-305-08000, filed 5/10/96, effective 1/1/97.]