Yakima County Fire District 12– Standard Operating Guidelines
SOG 4-3 – Confined Space Operations

1. General

1.1 Purpose. The purpose of this Standard Operating Guideline is to set forth safe and proper guidelines pertaining to the planning, opening, entry and emergency fire and rescue operations within a confined space, as defined by the Occupational Safety and Health Administration (OSHA) and the Washington Administrative Code (WAC).

1.2 Scope. This Standard Operating Guideline shall apply to all members of the Lake St. Louis Fire Protection District.

1.3 Enforcement. Enforcement of this standard operating guideline is the responsibility of the District's officers. Any person deviating from the provisions of this guideline may be required, at the discretion of the officer in charge, to submit in writing, within five (5) calendar days, an explanation for such deviation to the requesting officer who will forward the explanation up the chain of command for further review.

2.0 Definition

2.1 Confined Space: A confined space is any space that:

- Is large enough and so configured that a person can enter and perform assigned work; and
- Has limited or restricted means for entry or exit (for example: tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry); and
- Is not designed for continuous human occupancy.

3.0 Incident Response

3.1 The standard response to any confined space rescue or incident shall be an engine, rescue and a command officer.

3.2 Upon the confirmation of a confined space in which a person is trapped, or is believed to be trapped, the alarm shall be upgraded to a residential structure assignment and the Special Rescue Team shall be requested to respond to a Level Two staging area.

3.3 In the event that a hazardous material is suspected within the confined space, WSP and the Department of Ecology shall be requested to respond to a Level Two staging area.

4.0 Procedures for Entry

4.1 In order to operate safely in confined space situations, special precautions must be taken and rigidly enforced. Operations within confined spaces shall be approached with extreme caution. Direct supervision is required and all safety precautions shall be rigidly enforced. Operations shall be conducted in a manner that avoids premature commitment to unknown risks

4.2 Before allowing personnel to enter a confined space, the Incident Commander must attempt to gather any available information about the nature of the situation or hazards, particularly as it pertains to the atmosphere inside the space.

4.3 The Incident Commander must assume that an unsafe atmosphere exists within the confined space until and unless testing establishes the atmosphere is safe. Once test instruments arrive, readings of oxygen concentration, explosive gas or vapor concentrations, and carbon monoxide shall be made. Test instruments already on site may be used as circumstances dictate.

4.4 All personnel entering a confined space shall use breathing apparatus, either self-contained or supplied air systems. Breathing apparatus shall be used without exception in confined spaces until or unless analysis of the atmosphere confirms that it is safe to breath.

4.5 Personnel shall not remove face pieces or take any action that may compromise the effectiveness of their breathing apparatus while inside the confined space atmosphere.

4.6 Protective clothing shall be worn as required by the situation, depending on an evaluation of the hazards and the products that may be inside the confined space.

4.7 Any equipment taken inside the confined space, including lighting equipment, shall be “explosion proof”, when any flammable hazard is present or suspected.

4.8 Once feasible, the Incident Commander should establish a Ventilation Group to begin operations directed at providing fresh air and/or exhausting contaminated air from the confined space. When ventilating a confined space containing flammable vapors or gases, ventilation must consider the concentration in relation to flammable limits.

4.9 Care must be taken when using gasoline driven fans during positive pressure ventilation applications due to the introduction of carbon monoxide from the exhaust into the confined space. Electric exhaust fans are the preferred method of ventilation.

4.10 The Incident Commander shall assign a Safety Officer who shall evaluate the risks and enforce all safety requirements associated with the particular situation. If the Safety Officer judges that an operation is unsafe, the operation shall be suspended. Close communication must be maintained between the Safety Officer and the Incident Commander.

4.11 The Incident Commander shall appoint an Entry Team Group Officer who shall control access to the entrance/exit to the confined space. The Entry Team Officer shall record the names, assignments, entry times, and SCBA cylinder pressures of all personnel entering the confined space. The Entry Team Officer shall maintain an awareness of the expected exit time for each individual based on the air supply at the time of entry and provide a warning at the predetermined time to begin exit procedures. This warning will be given via radio or voice and be treated as an order to "evacuate".

4.12 The primary function of the Entry Team Officer is to maintain control of the number of personnel and prevent crowding at the entrance to the confined space and to maintain constant visual or radio contact with the entry team.

4.12 The Incident Commander, through the Entry Team Officer, shall ensure that personnel entering a confined space do not commit themselves to travel within the space beyond a point that provides sufficient air reserve to return safely and exit, with at least a five minute safety margin.

4.13 When working in confined spaces with restricted access, personnel shall wear a class 3 full body harness or wrist straps attached to a safety line to provide for extrication by rope.

4.14 When working in a confined space in which the entry point is 6 feet or more above the working area, personnel shall wear a class 3 full body harness or wrist straps attached to a safety line to a tripod or other mechanical advantage hauling system to provide for the extrication of personnel by rope. Powered mechanical advantage systems (i.e. vehicle winch, or an electric hand winch) shall never be used to remove persons from a confined space.

5. Procedures for Atmospheric Testing

5.1 Atmospheric testing is required for two distinct purposes; to evaluate the hazards of the confined space and to verify that conditions are acceptable for entry into the confined space.

5.2 The atmosphere of a confined space shall be analyzed using appropriate equipment. A multi-gas detector from on-site workers or the Rescue Team may be used. Readings shall be evaluated by the Safety Officer and the Incident Commander. The data will be provided for tactical procedures and recommendations.

5.4 Duration of Testing. The length of time for each atmospheric test being performed must be, at a minimum, the amount of time necessary for the instrument being used to provide an accurate reading based on the manufacturer's recommendations.

5.5 Testing Stratified Atmospheres. When monitoring for entries involving a descent into atmospheres that may be stratified, the atmospheric envelope should be tested a distance of approximately 4 feet in the direction of travel and to each side. If a sampling probe is used, the entrant's rate of progress should be slowed to accommodate the sampling speed and detector response.