Confined Space Operations

Scope: Sacramento Regional Fire Departments

Policy Contact
Sacramento Regional Operations Group

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References
• Department of Industrial Relations. 2015. California Code of Regulations. Title 8. General Industry Safety Orders #5156, 5157 and 5158

01. Guideline
Establish operational procedures for operating in a permit-required confined space

02. Definition

2.1 Confined Space
Defined by law as an area that meets all of the following criteria:

• Large enough for employees to physically enter and perform assigned work
• Has limited or restricted entry/egress
• Not designed for continuous employee occupancy

2.2 Permit-Required Confined Space

Last Reviewed: 8/2018
Guideline: Confined Space Operations

Defined by law as area that meets the criteria of a confined space with the addition of any one of the following:

- Presence or potential presence hazardous atmosphere
- Presence of engulfment hazard
- Container shaped such that entrants may be trapped/asphyxiated and tapers to a smaller cross-section
- Possesses other recognized serious health and/or safety hazards

03. Training Requirements

- Confined Space Awareness Level compliant with NFPA 1670
- Adequate personnel and equipment to affect a permit-required confined space rescue as defined in the Urban Search and Rescue Operational System Description ICS-USAR-120-1
- Members filling positions of entry group supervisor, attendant or entrant must possess a SFT FSTEP certificate as a Confined Space Technician and have documented participation in an annual confined space drill as one of the four mandated positions (entry group supervisor, attendant, entrant and/or back up)

04. Procedures

4.1 First-Due Actions

The following guidelines are to be used for strategic and tactical priorities during confined space rescue operations:

- Establish command
- Implement site control and scene management [NFPA 1670 7.2.4(7)]
- Recognize potential for a confined space rescue and request additional resources as needed [NFPA 1670 7.2.4(2)]
- Initiate contact and establish communications with victims when possible [NFPA 1670 7.2.4(3)]
- Recognize and identify the hazards associated with non-entry confined space emergencies [NFPA 1670 7.2.4(3)]
- Perform non-entry retrieval [NFPA 1670 7.2.4(5)]
- Begin atmospheric monitoring when available
- Increase survivability profile, i.e. create a micro-climate around victim; ventilate area, etc.

4.2 Rescue Company Operations

Check in with command and confirm/determine whether operational strategy is one of rescue or recovery. If a confined space entry is performed the following guidelines shall be followed:

- Complete a confined-entry permit (Regional Confined Space Entry Permit)
- Initiate pre-entry atmospheric monitoring and ventilation as soon as possible
- Assess and improve survivability profile
- Secure all energy sources via lock-out/tag-out prior to entry
Guideline: Confined Space Operations

- Establish primary and secondary communication systems
- Fill the following positions as soon as possible: rescue/entry group supervisor, assistant safety officer (rescue), air supply group, etc.
- Conduct a pre-entry safety briefing prior to confined space entry
- Safety briefings should at minimum include: rescue/entry group supervisor, safety officer, attendant, entrant and back-up entrant

4.3 PPE
Individual departments as well as incident specific hazards may dictate the use of safety gear beyond the minimum. The minimum required PPE shall be:

- Helmet
- Long sleeve shirt and pants
- Work gloves
- Steel-toe/ shank boots
# Sacramento Regional Fire Departments
## Confined Space Entry Permit

## INCIDENT INFORMATION

<table>
<thead>
<tr>
<th>START DATE:</th>
<th>START TIME:</th>
<th>TERMINATION DATE:</th>
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<th>CONTACT PERSON:</th>
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<tr>
<th>NUMBER OF VICTIMS:</th>
<th>TIME LAST SEEN:</th>
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## ASSESSMENT

### HAZARDS IN SPACE

**ATMOSPHERIC**
- [ ] Oxygen Deficient
- [ ] Oxygen Enrichment
- [ ] Explosive
- [ ] Toxic

**PHYSICAL / MECHANICAL**
- [ ] Engulfment
- [ ] Entrapment

**ENVIRONMENTAL**
- [ ] Corrosive
- [ ] Temperature
- [ ] Biological
- [ ] Radiation

**PHYSIOLOGICAL**
- [ ] Fatigue
- [ ] High Noise Levels

- [ ] RESCUE  [ ] RECOVERY

(Acceptable Entry Conditions For Recovery 19.5 – 23.5% O₂ / < 10% LEL / < 10 PPM H₂S / < 25 PPM CO)

## HAZARD CONTROL

### VENTILATION
- [ ] Natural
- [ ] Supply
- [ ] Exhaust
- [ ] Local Supply
- [ ] Local Exhaust
- [ ] Combination

### ELECTRICAL
- [ ] Lock-Out / Tag-Out
- [ ] Disconnect

### MECHANICAL
- [ ] Lock-Out / Tag-Out
- [ ] Disconnect
- [ ] Block Open
- [ ] Release Stored Energy

### PIPES / DUCTS
- [ ] Blocking / Blinding
- [ ] Disconnect

### IGNITION PREVENTION
- [ ] Explosion Proof
- [ ] Intrinsically Safe

### PNEUMATIC
- [ ] Block Open

### HYDRAULIC
- [ ] Lock-Out / Tag-Out
- [ ] Disconnect

### PHYSIOLOGICAL
- [ ] Medical Monitoring

## EQUIPMENT REQUIRED

### PRE-ENTRY

**PPE**
- [ ] Flash Protection
- [ ] Chemical Protection

**RESPIRATORY PROTECTION**
- [ ] SCBA
- [ ] SABA

**COMMUNICATION X 2**
- [ ] Voice
- [ ] Visual / Hand
- [ ] Tapping / Rapping / OATH

**ENTRY AND EXTRICATION**
- [ ] Atmospheric Monitor
- [ ] PASS
- [ ] High Directional
- [ ] Rope M/A
- [ ] Winch

**LIGHTING X 2**
- [ ] Light Stick
- [ ] Headlamp
- [ ] Hand Light
- [ ] Cord Light

**VICTIM PACKAGING**
- [ ] Backboard
- [ ] Litter
- [ ] SKED
- [ ] Halfback
- [ ] Harness
- [ ] PPE / Respiratory Protection

Last Reviewed: 8/2018
## POSITIONS

### ENTRY GROUP SUPERVISOR:

### ATTENDANT:
- Atmospheric Monitor:
- Ventilation:
- Lock-Out / Tag-Out:  
- Key Holder:  
- Air Supply Officer:
- Rigging Team Leader:
- Communications:
- Incident Commander:
- Safety Officer:
- Medical Group Supervisor:
- Hazardous Materials Group Supervisor:

### AUTHORIZED ENTRANTS

| Entrant #1: | IN | OUT |
|Entrant #2: | IN | OUT |
|Entrant #3: | IN | OUT |
|Entrant #4: | IN | OUT |
|Back-up #1: | IN | OUT |
|Back-up #2: | IN | OUT |
|Back-up #3: | IN | OUT |
|Back-up #4: | IN | OUT |

### ATMOSPHERIC MONITORING READINGS (TAKEN AT 4 FOOT INTERVALS VERTICALLY)

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### AUTHORIZING SIGNATURE

ENTRY GROUP SUPERVISOR:

Last Reviewed: 8/2018
The Fire Chiefs approve the contents of this policy:

Mike McLaughlin, Fire Chief
Cosumnes Fire Department

Felipe Rodriguez, Fire Chief
City of Folsom Fire Department

Todd Harms, Fire Chief
Sacramento Metro Fire District

Gary Loesch, Fire Chief
City of Sacramento Fire Department

The Operations Chiefs and SRFECC have reviewed the contents of this policy:

Troy Bair, D/C of Operations
Cosumnes Fire Department

Chad Wilson, D/C of Operations
City of Folsom Fire Department

Eric Bridge, D/C of Operations
Sacramento Metro Fire District

Niko King, D/C of Operations
City of Sacramento Fire Department

Joe Thuesen, Executive Director
Sacramento Regional Fire/EMS Communications Center

Kylee Soares, Deputy Director of Operations
Sacramento Regional Fire/EMS Communications Center