

# RESCUE PRE-PLAN

Date:

GENERAL INFORMATION

Effective Time:

AM

PM

Expiration Time:

AM

PM

Equipment / Line ID:

Customer:

Permit #:

Safety Attendant:

IMMEDIATE HAZARD

Chemical Information:

N/A

Purging and Cleaning Methods

Possible Chemical

SDS Attached

HIN

#

UN

#

Possible Chemical

SDS Attached

HIN

#

UN

#

Possible Chemical

SDS Attached

HIN

#

UN

#

Physical and Chemical Properties:

N/A

Dispersement Characteristics (most volatile)

State of Matter: (check)

Solid

Liquid

Gas

Solubility / Miscibility:

Vapor Pressure:

Boiling Point:

Molecular Weight:

Ionization Potential:

Flash Point:

Specific Gravity:

Ignition Temperature:

Vapor Density:

Action Levels (most toxic)

IDLH:

PEL:

REL:

UEL:

TLV-C:

TWA:

STEL:

LEL:

Weather and Environmental Conditions:

Temperature:

Wind Direction:

Wind Speed:

Humidity:

Heat Index:

Wind Chill Factor:

Precipitation:

Dew Point:

Topography Considerations:

(Sumps, Drains, Berms, etc.)

Data Collected From:

## SECONDARY HAZARD PRCS Configuration Type (Ops / Tech)

Entrants Visible:	Yes	No	Portal Opening	Open	Obstructed
Internal Space:	Spacious	Congested	External Clearance:	Spacious	Congested
Internal Configuration:	Open	Obstructed	Engulfment Potential:	Yes	No

All hazards in and around the hazard space have been identified and can be mitigated by using respiratory protection so that the victim is contacted, confined space entry is established and maintained, atmosphere is continuously monitored, and victim removal can be initiated by a retrieval system.      Yes      No

## PRCS Characteristics: Working at Heights

Elevated > 5'	No	Yes	Space Access:	Horizontal	Vertical
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## Types of Potential Hazards

Radiation	Pressure	Temperature
Chemical	Electrical	Mechanical
Biological	Noise	Gravity
Motion	Strain or Tension	Weather
Oxygen-Deficient Atmosphere	Engulfment	Energized Equipment
Oxygen-Enriched Atmosphere	Toxic Atmosphere	Entrapment
Flammable Atmosphere	Ignition Sources	Hazardous Material
Complex Special Operations	Fatigue	Simultaneous Operations
Other Health Hazards	Other Specific Hazards	Instability or Reactivity

## PRCS HAZARD SUMMARY

	OXYGEN	FLAMMABILITY	TOXICITY	CONFIGURATION
CLASS A	<19.5% OR >23.5%	>10% OF LEL	>IDLH or Ceiling	Complex internal
CLASS B	>-0.1% OR 20.9%	<10% OF LEL	>TLV / REL / PEL	Fall line or inline
CLASS C	>0.1% OF 20.9%	<10% OF LEL	< TLV / REL / PEL	Complex internal
CLASS D	+0.1% OF 20.9%	0 LEL	No exposure	Fall line or inline

## SAFETY PRECAUTIONS

## Isolation Controls

### Barricade Control Zones

N/A	Initial Isolation & PAD	Exclusion/CRZ/Support	Hot/Warm/Cold
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### Lock-out / Tag-out

N/A	Air Gap	Double Block & Bleed	Slip Bind	Lock & Tag
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### Decontamination

N/A	Safety Shower & Eye Wash	Technical	Gross
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## Engineering Controls

Ventilation Natural or Mechanical	Anchor System	Edge Protection
Air Monitoring	AHD Load Mgt. or Friction Mgt.	TTRS
Ladder Rigid or Flexible	Decent Control	Tag Line / Lifeline
Fall Protection	Progress Capture	Dual Tag Line
Intrinsically Safe Lighting	Mechanical Advantage	Track Line
Ground Fault Interrupter	Haul Field Orientation	Control Line
Fire Extinguishers	Center Haul ONLY	Reeve Line
Shoring or Sloping	Oppositional Back tie	Knot Passing
Engineered Trench Box	Stainless Steel Equipment	Specialized Equipment

## Administrative Controls

Span of Control	Signs Posted	Housekeeping
Essential Personnel	Permit	Certified Equipment
Buddy System Established	SDS Sheets Attached	Preflight Checklist
Special Operations Personnel	Joint Hazard Meeting	Touch Test
VAI (Victim Assessment)	Communication Plan	Critical Point Test
MCI (Mass Casualty)	Hydration	Whistle Test
Technician Recycle / Rehab	Fatigue Schedule Required	Upwind & LZ Identified

## PPE Controls

Inert Helmet (Life Support System)	Life Safety Harness	Goggles
SCBA (minimum 45-minute)	Gloves (Leather, CPC, Rope)	Spoggles
SAR w/ 5-minute	Fire-Retardant Clothing	Safety Glasses
Emergency Egress Line (EEL)	Proximity Suit	Ear Protection
PAPR	Chemical Clothing (Level A)	Double Ear Protection
Full Face Respirator	Chemical Clothing (Level B)	Steel Toe Boots
Half Face Respirator	Chemical Clothing (Level C)	Spark Proof Tools
Body Substance Isolation PPE	Hardhat	CS Packaging Device
Edge Restraint	Double Lanyard	Self-Retracting Lifeline

## Method of Summoning Rescue Team, Fire Department and/or EMS

Dial in plant emergency number:

Contact plant via radio channel:

Rescue Team contact number:

Face to Face

Other:

## EXTRACTION

## Main

### Anchorage System

Tripod / TerrAdaptor	Structural Beam	Manway	Stairwell Component
Ladder Cage	Welded Steel Handrail	Steel Pipe	Scaffolding Intersection
N/A	Other:		

### Haul System

Winch/DBI	6:1 Force Accumulation System	Block and Tackle
4:1/5:1 Piggyback	1:1 Lifeline/Tag Line/Load Line	Evolution of Z-Rig
N/A	Other:	

### Lower Device

Petzl Maestro	CMC Clutch	MPD	Petzl ID
N/A	Other:		

## Belay

### Anchorage System

Tripod / TerrAdaptor	Structural Beam	Manway	Stairwell Component
Ladder Cage	Welded Steel Handrail	Steel Pipe	Scaffolding Intersection
N/A	Other:		

### Haul System

Winch/DBI	6:1 Force Accumulation System	Block and Tackle
4:1/5:1 Piggyback	1:1 Lifeline/Tag Line/Load Line	Evolution of Z-Rig
N/A	Other:	

### Lower Device

Petzl Maestro	CMC Clutch	MPD	Petzl ID
N/A	Other:		

## Harness

Full Body Harness (Belay, Central & Dorsal)	Full Body Harness (Dorsal Only)	
Improvised Victim Harness	Wristlets	Anklets
N/A	Other:	

## Packaging Device

Long Spine Board	C-Collar	Head Immobilizer
Scoop Board	FAST Board	Yates Spec Pak
N/A	Other:	

System Conversion			
AZTEK	LRH	Dog and Tails	RPM
N/A	Other:		
Transfer Techniques			
Twin Tension	Pike and Pivot	Dynamic Directional	Two Rope Offset
N/A	Other:		
AERIAL BASED OPERATION			
Fall Line	Minor Offset	Major Offset	Steep Highline
N/A	Other:		Highline
LOWER			Main
<i>Anchorage System</i>			
Tripod / TerrAdaptor	Structural Beam	Manway	Stairwell Component
Ladder Cage	Welded Steel Handrail	Steel Pipe	Scaffolding Intersection
N/A	Other:		
<i>Haul System</i>			
Winch/DBI	6:1 Force Accumulation System		Block and Tackle
4:1/5:1 Piggyback	1:1 Lifeline/Tag Line/Load Line		Evolution of Z-Rig
N/A	Other:		
<i>Lower Device</i>			
Petzl Maestro	CMC Clutch	MPD	Petzl ID
N/A	Other:		
			Belay
<i>Anchorage System</i>			
Tripod / TerrAdaptor	Structural Beam	Manway	Stairwell Component
Ladder Cage	Welded Steel Handrail	Steel Pipe	Scaffolding Intersection
N/A	Other:		
<i>Haul System</i>			
Winch/DBI	6:1 Force Accumulation System		Block and Tackle
4:1/5:1 Piggyback	1:1 Lifeline/Tag Line/Load Line		Evolution of Z-Rig
N/A	Other:		
<i>Lower Device</i>			
Petzl Maestro	CMC Clutch	MPD	Petzl ID
N/A	Other:		

## Tag Line

Tag to Yoke/Masterpoint	Tag to Litter	Triangulated Tagline
Elevated Tag	Dual Taglines (Oppositional)	Dragonfly
N/A	Other:	

## System Conversion

AZTEK	Load Releasing Hitch	Dog and Tails	RPM
N/A	Other:		

## Transfer Techniques

Twin Tension	Pike and Pivot	Dynamic Directional	Two Rope Offset
Hybrid Skate block	Mirrored/Skate Block	Steep Highline	Highline
N/A	Other:		

## Packaging Device

Long Spine Board	C-Collar	Head Immobilizer
Scoop Board	FAST Board	Yates Spec Pak
Stokes Litter	Man Basket (Crane)	Skid Pan (Crane)
N/A	Other:	

## Configuration

IPS Quad-Bridle	Arizona Tri-Bridle	Improvised Bridle
N/A	Other:	

## Masterpoint or Yoke

Doubled Long Tail Bowlines	Primary Secondary Knots at Masterpoint	Crane Hook
N/A	Other:	

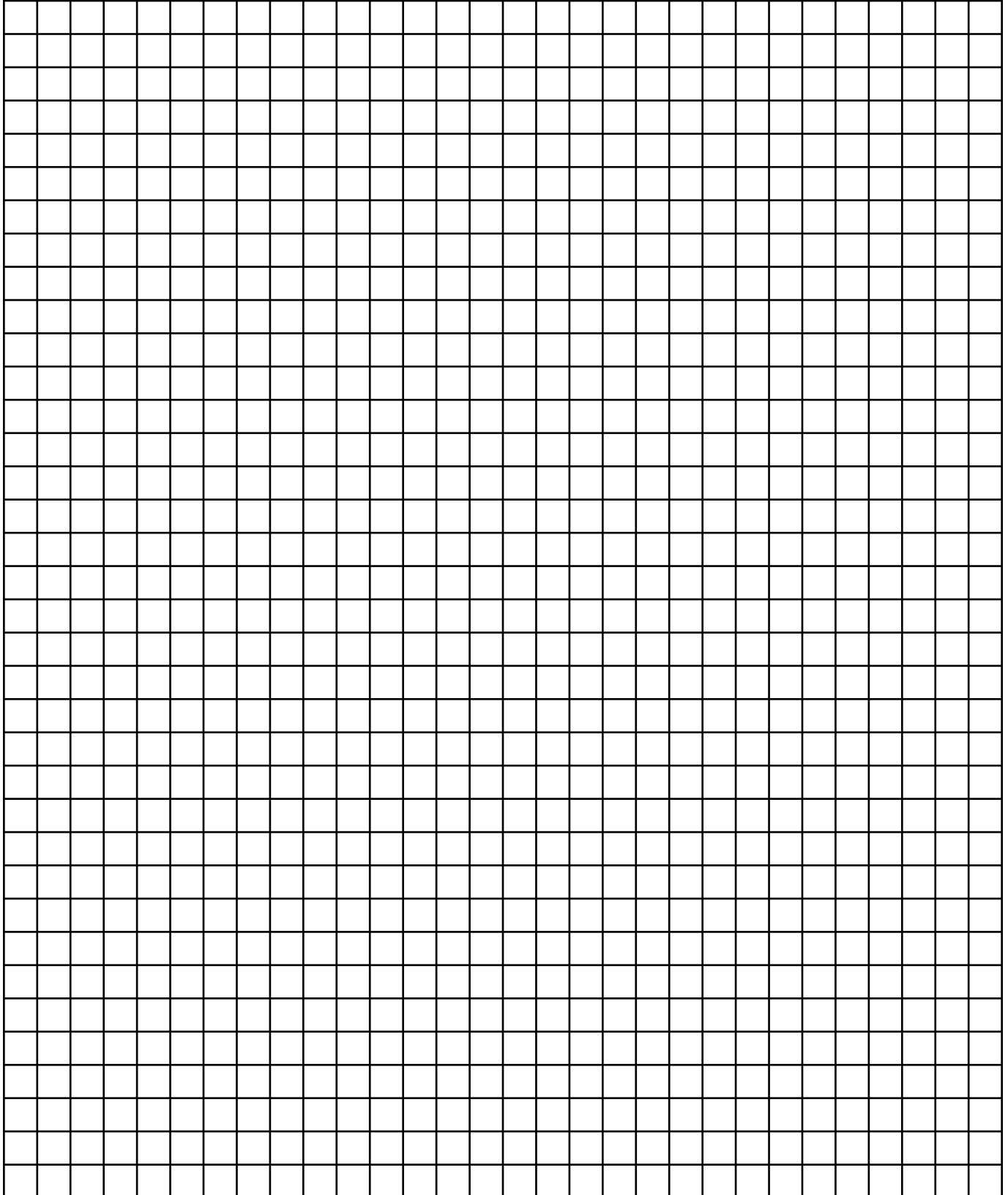
## GROUND Based Operation

Flat	Low	Steep	High-Angle
N/A	Other:		

## Packaging Device

Long Spine Board	C-Collar	Head Immobilizer
Scoop Board	FAST Board	Yates Spec Pak
Stokes Litter	Reeve Sleeve	SKED
N/A	Other:	

Diagram ( see attached)



## STANDARDIZED OPERATING RESCUE PROCEDURES

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### Incident Occurs

- ★ Awareness level personnel who witness or discover an incident initiate an emergency response sequence by notifying the proper authorities.
  - ★ Attendant will summon rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards.
  - ★ Initiate site rescue Emergency Response Plan.
  - ★ RIC/CI controls the incident until properly relieved.
  - ★ RIC/CI will perform personnel size-up through roll call of delegated roles and responsibilities of essential personnel.
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## ANALYZE

### Scene Assessment

- ★ Rescue team will prioritize accountability and establish the communication plan via L-CAN report.
- ★ Rescue team conducts rapid hazard identification and risk assessment to verify location for initial guidance establishing "Initial Isolation Zone" and "Protective Action Zone" utilizing the LIP principle.
- ★ Establish communication with victim(s) as soon as possible.
- ★ Determine how long the victim(s) has been down, and establish the mechanism of the injury, and the survivability profile of the victim(s).
- ★ Determine the entry type of the confined space rescue and the required equipment and safety precautions: vertical rescue, horizontal rescue, suspended victim rescue, entrapped or engulfed victim rescue, rescue involving hazardous material.
- ★ Determine the response objectives based on circumstances of the emergency: victim rescue, victim recovery, remote extrication, or nonintervention.
- ★ Rescue team personnel will establish the alert code 1-5 to designate the emergency operation strategy as "Defensive", "Offensive", or "Non-Intervention".
- ★ All non-intrinsically safe mechanical equipment must be shut down and brought to a zero mechanical state prior to entry (excluding ventilation, localized exhaust, or Nitrogen where prescribed).
- ★ Structural stability of the confined space should be re-evaluated if appropriate measures must be taken to assure the structural stability of the space.
- ★ Determine the number and location of victim(s). – (Could initiate MCI)
- ★ Make quick visual assessment of victim(s), if possible. – (Could initiate Mass Decon)
- ★ Barricade scene immediately to prevent others from entry or contaminating evidence.

\*\*\* **Note:** RIC/CI has the authority to change strategies based on hazards and available resources.

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## STANDARDIZED OPERATING RESCUE PROCEDURES

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### PLAN / IMPLEMENT / EVALUATE

#### Self-Rescue Operations

- ★ Entrant should recognize signs & symptoms of physical exhaustion, heat, or cold stress, or over exposure to any chemical within the space.
- ★ Entrant should notify the safety attendant that something is wrong and that they need to exit the space immediately.
- ★ Safety attendant should remove any obstructions from the space to allow entrant to safely exit. (Including monitoring equipment)
- ★ If entrant is not feeling well or is suffering from any signs or symptoms of physical exhaustion or injury, heat, or cold stress, or over exposure to any chemical within the space, entrant should quickly vacate the space before becoming incapacitated.
- ★ If Self-Rescue is unsuccessful or deemed unsafe, begin external rescue operations

\*\*\* *Note: Safety attendant should always notify the rescue team to continue with victim assessment, even if self-rescue is successful.*

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#### External Rescue Operations

- ★ To minimize risk, if other entrant(s) not affected by the emergency are in the confined space, they shall exit first.
  - ★ The victim's pathway should be cleared as entrants exit. Exiting entrants should stage victim in line or within the fall line prior to egress as appropriate.
  - ★ Entrant(s) shall wear full body harness connected to retrieval system the entire time they are within the space. This system should be in place prior to entry in such a manner that retrieval of rescue entrants can begin immediately. Retrieval systems can be used as fall arresting devices for rescue personnel.
  - ★ RIC/CI or HASS shall ensure that least one rescuer is appropriately dressed and ready for entry if external rescue operations fail.
  - ★ If an external rescue is unsuccessful or deemed unsafe or unfeasible, begin internal rescue operations.
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#### Self-Rescue Operations

- ★ Operational safeguards and rules of engagement have been met and pre-flight checklist conducted
- ★ Air monitoring shall be conducted prior to rescue entry, this will determine the need for breathing apparatus and/or dermal protection for rescuer
- ★ Pre-assigned personnel will then make entry – TED or higher.
- ★ RIC/CI or HASS shall ensure that least one rescuer is appropriately dressed and ready as a backup.
- ★ It is recommended that entry personnel should use personal air monitoring devices when available.
- ★ If possible, the entry team should bring a supply of breathable air for the victim(s)
- ★ Declare safe entry conditions have been met.
- ★ Make entry to conduct recon, rescue, or recovery as appropriate.

\*\*\* *Note: TED will always remain connected to an external rope while internal operations are being conducted.*

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## STANDARDIZED OPERATING RESCUE PROCEDURES

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### Internal Victim Assessment and Packing

- ★ Upon reaching the victim, entry personnel shall conduct a primary victim assessment.
- ★ Use VAI Medical plan and use proper BSI and universal precautions while conducting victim aid.
- ★ Upon completion of primary victim assessment, update condition to rescue team, verify medical aid response is appropriate.
- ★ If required, appropriate life-saving interventions should be started immediately.
- ★ A quick but thorough secondary assessment of the victim shall be conducted. If conditions permit, entry personnel should attempt to treat serious injuries prior to removal.
- ★ If indicated, C-Spine precautions should be administered.
- ★ In the event of C-spine trauma, the victim will be packaged in the EXTRACTION — PACKAGING DEVICE due to the diameter of manways, internal configuration, equipment availability, and/or any other limitation.
- ★ If the victim is conscious, and has no signs of trauma, C-spine precautions will be disregarded.

\*\*\* **Note:** Because of the difficulty removing the victim from the space, optimum C-spine precautions may not be possible.

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### Victim Removal (Extraction or Extrication)

- ★ To minimize risk, TED will negotiate the victim's pathway through internal configuration. They will stage victim in line or within the fall line prior to rescuer egress.
  - ★ Placement, construction, and operations of rope rescue systems for extraction will be dictated by the rescue team.
  - ★ Prior to removal of the victim, rescue team members will have completed all rescue system rigging required to move victim to safety and conduct pre-flight checklist.
  - ★ Non-trauma victims will be removed from the space utilizing a rope rescue system which is connected to the rear D-ring of the victim's safety harness.
  - ★ For trauma victims or in the unlikely event that the victim is not wearing a harness, the entry team will package the victim in an emergency appropriate EXTRACTION — HARNESS. The loops that are created will be the improvised harness connection point.
  - ★ Trauma and non-trauma victims will be extracted utilizing redundant lines, a(n) EXTRACTION — MAIN anchored to EXTRACTION — MAIN ANCHORAGE SYSTEM and a(n) EXTRACTION — BELAY anchored to EXTRACTION — BELAY ANCHORAGE SYSTEM. To haul the victim from the space, a(n) EXTRACTION — MAIN HAUL SYSTEM and/or a(n) EXTRACTION — BELAY HAUL SYSTEM will be constructed for mechanical advantage. A(n) EXTRACTION — MAIN LOWER DEVICE for the main line and/or a(n) EXTRACTION — BELAY LOWER DEVICE for the belay line will be used for descent control.
  - ★ In the event, a system operation needs to be converted and the set up does not support hauling and lowering efficiently, a(n) EXTRACTION — SYSTEM CONVERSION will be utilized.
  - ★ To navigate horizontal movement during extraction, a(n) EXTRACTION — TRANSFER TECHNIQUE will be utilized.
  - ★ Both trauma and non-trauma victims will be placed outside of the hazard space upwind or crosswind.
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## STANDARDIZED OPERATING RESCUE PROCEDURES

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### Lowering

- ★ Placement, construction, and operations of lowering rope rescue systems will be dictated by the rescue team.
- ★ Prior to lowering of the victim, rescue team members will have completed all rescue system rigging required to move victim and conduct pre-flight checklist.
- ★ For aerial based operations, trauma and non-trauma victims will be lowered utilizing redundant lines a(n) LOWER — MAIN anchored to LOWER — MAIN ANCHORAGE SYSTEM and a(n) LOWER — BELAY anchored to LOWER — BELAY ANCHORAGE SYSTEM. To haul the victim from the space, A a(n) LOWER — MAIN HAUL SYSTEM and or a(n) LOWER — BELAY HAUL SYSTEM will be constructed for mechanical advantage. A(n) LOWER — MAIN LOWER DEVICE for the main line and or a(n) LOWER — BELAY LOWER DEVICE for the belay line will be used for descent control.
- ★ The rope rescue system lines will be configured into a(n) MASTERPOINT OR YOKE and will be connected at the BRIDLE CONFIGURATION. of the LOWER — PACKAGING DEVICE.
- ★ In the event, a system operation needs to be converted and the set up does not support hauling and lowering efficiently, a(n) LOWER — SYSTEM CONVERSION will be utilized.
- ★ To stabilize a suspended load that might otherwise rotate or swing in an uncontrolled fashion during the lower, a(n) LOWER — TAG LINE will be connected.
- ★ To navigate horizontal movement during the lower, a(n) LOWER — TRANSFER TECHNIQUE will be utilized.
- ★ Upon removal, victim decontamination will be conducted if required.
- ★ Rescue personnel shall transfer the victim to local EMS for transport.

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### TERMINATE

#### Termination

- ★ Personnel accountability
- ★ In the event of a rescue, all affected personnel are required to participate following the termination of emergency operations for a quick post-incident debriefing.
- ★ Conduct a debriefing, critique, and post incident analysis.
- ★ Remove tools and equipment used for the rescue/recovery. If there has been a fatality, consider leaving the tools and equipment in place for investigative purposes.
- ★ Secure the scene. Prior to turning the property back over to the responsible party, one final reading of atmospheres shall be taken and recorded.
- ★ Transfer custody of the incident to AHJ

\*\*\* **Note:** Because of the difficulty removing the victim from the space, optimum C-spine precautions may not be possible.

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### Demobilization

- ★ Conduct Post-Incident Inspection of resources utilized during operations.
- ★ For non-fatality incidents, if entry personnel or equipment have been contaminated during, proper decontamination procedures must be conducted prior to returning equipment back in service.
- ★ Return to normal operations.

Comments:

Date:        /        /

\*\*\* Rescue Plan Subject to Change \*\*\*

Rescue Supervisor RIC/CI:

HASS:

Team Member:

Team Member:

Team Member:

Team Member: